INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT
OF THE
REACTION CONTROL
SYSTEM
Vol. 2 of 5

26 FEBRUARY 1988

NASA DATA:

ASSESSMI ASSESSMI NASA FMI	ENT	II):	1/29/8 FRCS-7 05-6KF	42	88 -	1				ASA DA BASELI N				
SUBSYSTI MDAC ID: ITEM:				FRCS 742 RESIST	or,	5.1	K 1	/4W	ī						
LEAD ANA	ALYS	ST	:	D. HAF	TMA	N									
ASSESSMI	ENT	:													
	CR			ΙΤΥ	F	REDUN	DAN	CY	SCREE	ens		CI	L	ď.	
	1		LIGHT W/FUI	NC	P			В		C	!			•	
NASA IOA	[3	/3 /3]	[]]]	[]]] ;	*
COMPARE	[/]	[3	(]	[]	[]	
RECOMME	NDA'	ri	ons:	(If	di	fere	nt	fro	om NAS	SA)					
	[3	/2R	1	[]	?]	[P]	[F	']		/DI] ELE'	TE)
* CIL R	ETE	NT:	ION 1	RATION?	ALE:	(If	ap	pli	icable	P	DEQUAT	[]	

REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	FRC 05-	9/88 S-743 6KF-20	88	-1		N	ASA D BASEL		[) x]	
SUBSYSTI MDAC ID ITEM:				FRC 743	S		1K 1/4							
LEAD AND	ALY	ST	:	D.	HARTMA	N								
ASSESSMI	ENT	:												
	CR		ICA LIG	LITY	R	EDU	NDANCY	sc	REENS			CII		
]			UNC	A		В		c			ITI	EM	
NASA IOA	[3 3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[3	[]	[]		[]	
RECOMMEN	IDA!	ΓΙC	SMC	: (:	If dif	fer	ent fro	om 1	NASA)					
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REMARKS:										DEQUA' DEQUA'		[]	
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FDCC-744	38 - 1		NASA DATA: BASELINE NEW		
0000	FRCS 744 RESISTOR,	5.1K 1,	/4W			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
	ITY R	EDUNDAN	CY SCREE	ens	CIL ITEM	
FLIGH HDW/FU	NC A		В	С		
NASA [3 /3 IOA [3 /3] [] []	_	[
COMPARE [/] [] [3	[]	[]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)		
[3 /2]	?] [P] [P	[P]	[DD/DE] LETE)
* CIL RETENTION	RATIONALE:	(If ap	plicable	e) ADEQUATE INADEQUATE]
REMARKS: THIS FAILURE MAY POSITION. REDUIT TO FALSELY FAIL OPERATIONS.	IDANCY PROV	IDED.	LOSS OF	ALL REDUNDA	\mathtt{NCY} M	AY LEAD

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D. I:	ATE D:	FRC 05-	9/88 S-745 6KF-20	88 -	-1		N	IASA DA BASELI 1]	
SUBSYSTE MDAC ID:	EM:			FRC: 745	S		1K 1/4							
LEAD ANA	LY	ST	:	D. 1	HARTMA	N								
ASSESSME	ENT	:												
	CR		ICAI LIGI		R	EDUI	NDANCY	SC	REENS			CIL	•	
	1		W/F		A	•	В		c	:	•	ITEN	1	
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COMPARE	[/)	ſ]	[]	[]		[]	
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REMARKS:										DEQUAT	re i		j	
A SHORT	ACI MMI	ROS ENI	SS A	A RLR REMOVA	TYPE AL OF	RESI THE	STOR :	cs 1	NOT A FAILUR	CREDIE E MODE	BLE I	IIA?	JUR HI	Œ.

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-746 NASA FMEA #: 05-6KF-2089 -1 SUBSYSTEM: FRCS											_		DATA: LINE NEW	[x]		
SUBSYSTEM MDAC ID:	M:			FRCS 746 RESIST	roi	۲,	1.28	2	W									
LEAD ANA	LYS	ST	:	D. HAI	RTI	IAN	1											
ASSESSME	NT:	:																
•	CR:		[CAL]			RE	DUNE	AN	CY	SCR	EENS	3			CI II	L EN	ſ	
	1		/FUI			A			В			С						
NASA IOA	[2	/1R /3]	[P]	[F]	[[P]		[X]	*
COMPARE	[N	/N	1	[N]	(N]	[N)		[N]	
RECOMMEN	DA'	TI:	ons:	(If	đ	ifi	feren	nt	fr	om N	(ASA)						
	[3	/2R]	[P]	(P]	[P]	(A		D D		ETE)
* CIL RE	TE	NT	ION :	RATION	AL	E:	(If	aŗ	pl	icak			DEQU DEQU		[]	
REMARKS: NASA FME	A	co	NSID	ERS MU	LT	IP:	LE F	AI	LUR	ES.	НО	WE'	VER,	Los	S	of		

CAPABILITY TO MONITOR VALVE STATUS MAY LEAD TO FALSELY FAILING THE VALVE CLOSED POSSIBLY EFFECTING MISSION OPERATIONS.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT I	D:		-747	89 -	2		N	IASA DA' BASELII N		x]
SUBSYSTEMDAC ID:	M:		FRCS 747 RESIS	STOR,	1.2	K 2W					
LEAD ANA	LYSI	?:	D. HA	ARTMA	N						
ASSESSME	NT:										
•			ITY	R	EDUN	DANCY	SCRE	ENS		CII	
		LIGH'		A		В		C	!	ITI	EM
NASA IOA	[3	/3]	[]	[]	[]	[] *
COMPARE	[/]	[]	[]	ĺ]	[]
RECOMMENI	DATI	ons:	(If	dif	fere	nt fr	om NA	SA)			
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* CIL RET	TENT	ION 1	RATION	ALE:	(If	appl:	icabl	A	DEQUATE DEQUATE]

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT II		FRCS		37 -	1		N	ASA BASE		[
SUBSYSTEMDAC ID:			FRCS 748 RESI	STOR,	5.1	K 1/4	W						
LEAD ANA	LYST	:	D. H	ARTMAI	N								
ASSESSME	NT:												
	CRIT	ICAL LIGH		R	EDUN	DANCY	SCR	EENS			CII		
			NC	A		В		C	3				
NASA IOA	[3 [3	/3 /3]	[[]]]] []		[[] *]	ŧ.
COMPARE	[/	3	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(I	fdif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I] DELET	ľE)
* CIL RE	TENT	ION	RATIC	NALE:	(If	appl	icab	7	ADEQU ADEQU		[]	
REMARKS:									20			J	

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT	I	D:	FRO	CS-749	087 -	-1		1		DATA LINE NEW	[x]	
SUBSYST				FRO 749 RES		, 5.1	LK 1/4	1W						
LEAD AN	ALYS	ST	:	D.	HARTMA	AN .								
ASSESSM	ENT:	:												
	CR		ICAI LIGH		F	REDUN	IDANCY	scr	REENS			CI:		
	I			JNC	7	1	F	3	(2		11.	C.PI	
NASA IOA]	3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	Ţ]	[]	[]		[]	
RECOMME	NDAT	ric	ons:	: (If dif	fere	ent fr	om N	IASA)					
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REMARKS										ADEQU ADEQU	ATE	[]	
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ASSESSMEI ASSESSMEI NASA FME	T	ID):	FRC	s-750		-1		N		DATA: LINE NEW	[
SUBSYSTEM MDAC ID: ITEM:	M:			FRC 750 RES)	₹, 5.:	1K 1/4	1W						
LEAD ANA	LYS	T:		D.	HARTI	IAN								
ASSESSME	NT:													
	CRI		CAI LIGH	LITY		REDUI	NDANC!	Y SCR	EENS			CII		
	H	_		INC		A	1	В	C	2				
NASA IOA	[3	/3 /3]	[]	[]	[]		[] *]	•
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT	ľIC	ons:	: ((If d	iffer	ent f	rom N	ASA)					
	[/]	[1	[]	[]	(A	[DD/I] DELET	ľE)
* CIL RE	TEI	n T :	ION	RAT	CONAL	E: (I	f app	licab	1		JATE JATE	-]	
REMARKS:	REI	NC1	ES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-751 05-6KF-20	87 -1	1	VASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 751 RESISTOR,					
LEAD ANALYST:	D. HARTMAI	N				
ASSESSMENT:						
CRITICAL: FLIGHT	ITY RI	EDUNDANCY	SCREENS		CIL	
HDW/FU		В	C	2	TIE	M.
NASA [3 /3 IOA [3 /3] [] [] []	[] *]
COMPARE [/	J [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)			
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* CIL RETENTION F	RATIONALE:	(If appl	•			
			A INA	DEQUATE DEQUATE	[]]
REMARKS: A SHORT ACROSS A IOA RECOMMENDS RE FMEA.						

ASSESSMEN ASSESSMEN NASA FME	ATE:	1/29/FRCS-	88 752 F-208	88 - 1				SA DATA: BASELINE NEW]		
SUBSYSTEM MDAC ID:	M:			FRCS 752 RESIS								
LEAD ANA	LYS	ST	:	D. HA	RTMA	N						
ASSESSME	NT	:										
	CR.		ICAL:	ITY F	R	EDUND	ANCY	SCRE	ENS		CIL	
	I	HDV	/FUI	NC	A		В		С			
NASA IOA]	3	/3 /3]	[[]	[]	[]	[] *
COMPARE	[/]	[]	[3	(]	[]
RECOMMEN	DA'	rI(ons:	(If	dif	feren	t fr	om NAS	SA)			
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* CIL RE	TE	NT:	ION	RATION	ALE:	(If	appl	icabl	e) Ai INA	DEQUATE DEQUATE	[]
REMARKS: THIS FAI POSITION TO FALSE OPERATION	LU LY	R F	EDUN	DANCY	PROV	IDED.	LO	SS OF	INDI ALL	CATION O REDUNDA	F TH NCY	E VALVE MAY LEAD

ASSESSMI ASSESSMI NASA FMI	ENT	II	D:	FRO	S-753		-1			ASA D BASEL		[) X]	
SUBSYSTI MDAC ID: ITEM:				FRO 753 RES	,	t, 5.	1K 1/4	W						
LEAD ANA	LY	ST	:	D.	HARTM	AN								
ASSESSMI	ENT	:												
	CR					REDUI	NDANCY	SC	REENS			CII		
FLIGHT HDW/FUNC A B C														
NASA IOA	[3	/3 /3]]]	[]	[[]	*
COMPARE	[/]	[]	[]	(]		[]	
RECOMMEN	IDA:	ric	ons:	: (If di	ffere	ent fro	om 1	NASA)					
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A SHORT IOA RECO	ACI	ROS ENI	SS A	A RLR REMOV	TYPE AL OF	RES]	STOR I	IS 1	NOT A (FAILUR)	CREDII	BLE E FR	FAI OM	LUF THI	Œ. [S

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-754	4 2088 - 1			SA DATA: BASELINE NEW]
	FRCS 754 RESISTO						
LEAD ANALYST:	D. HARTI	MAN					
ASSESSMENT:							
CRITICAL: FLIGH		REDUNDA	NCY S	CREENS		CIL	1
	NC	A	В	С			
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *
COMPARE [/] [1	[]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	from	NASA)			
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REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILI	DANCY PR	OVIDED.	LOSS	TE INDIO	CATION O	F THI	E VALVE MAY LEAD

ASSESSMEI ASSESSMEI NASA FMEZ	T	ID):	FR	CS-75		-1		1	NASA D BASEI		[) X]	
SUBSYSTEM MDAC ID:	M:			FR 75 RE		R, 5.	1K 1/	4W						
LEAD ANA	LYS	T:		D.	HART	MAN								
ASSESSMEN	YT:													
C			CAI			REDU	NDANC	Y SCI	REENS			CI		
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NASA IOA	[3	/3 /3]] []]]]	[]		[]	*
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ASSESSME ASSESSME NASA FME	NT DA NT ID A #:	TE:	1/25 FRC: 05-	9/88 S-756 6KF-2	088 -	1			ASA D BASEI		[
SUBSYSTE MDAC ID: ITEM:			FRC 756 RES		, 5.1	.K 1/4	ł W						
LEAD ANA	LYST:		D.	HARTM	AN								
ASSESSME	NT:												
	CRITI				REDUN	IDANC	SCR	EENS			CIL		
		IGH' I/FU			A	I	3	C	:				
NASA IOA	[3 [3	/3 /3]	[]] []	[[]		[] *	
COMPARE	C	/]	[]	[]	[]		[]	
RECOMMEN	DATIC	ons:	(If di	ffere	ent fi	rom N	ASA)					
	[3	/2R	3	[P]	[]	P]	[]	?]	(A] ELETI	E)
* CIL RE	TENT]	ON	RATI	ONALE	E: (I:	f app	licab	7	ADEQUA]	
REMARKS: THIS FAI POSITION TO FALSE OPERATION	LURE 1. RI ELY FA	EDUN	DANC	Y PRO	VIDE	D. L	oss ()F ALI	L RED	UNDA	NCY	MAY	LEAD

ASSESSME	NT DATE: NT ID: A #:	FRCS-7	8 57 -208	38 - 1				ASA DATA BASELINE NEW	[]	
SUBSYSTE MDAC ID:		FRCS 757 RESIST									
LEAD ANA	LYST:	D. HAR	TMA	1							
ASSESSME	NT:										
	CRITICAL FLIGH		RI	EDUNDA	ANCY	SCRE	ens		CIL		
	HDW/FU		A		В		С		ITE	M	
NASA IOA	[3 /3 [3 /3]	[[]	[]	[]	[]	*
COMPARE	[/]	[]	[]	[[]	
RECOMMEN	DATIONS:	(If	difi	ferent	fro	om NAS	SA)				
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REMARKS:								DEQUATE DEQUATE	[]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-758 05-6KF-208	88 - 1		NASA DATA: BASELINE NEW]							
MDAC ID:	FRCS 758 RESISTOR,	5.1K 1/4V	Ŋ										
LEAD ANALYST:	D. HARTMAI	N											
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
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NASA [3 /3 IOA [3 /3] [] [] []	[] *]							
COMPARE [/] [] [] []	[]							
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[3 /2R] [P] [P] [P] (Al	[DD/DE] :LETE)							
* CIL RETENTION	RATIONALE:	(If appl		ADEQUATE IADEQUATE	-]							
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILI OPERATIONS.	DANCY PROV	IDED. LO	SS OF AI	LL REDUNDA	NCY M	IAY LEAD							

ASSESSMEN ASSESSMEN NASA FMEA	T I	D:	FRCS-7	759	38 - 1				ASA DAT BASELIN NE		-]	
SUBSYSTEM MDAC ID: ITEM:	:		FRCS 759 RESIST	COR,	5.1K	1/4	₹						
LEAD ANAL	YST	:	D. HAF	RTMAI	1								
ASSESSMEN	T:												
C		ICALI		RI	EDUNDA	ANCY	SCRE	ens			CIL		
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NASA IOA	[3 [3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/	3	[]	[]	[]		[]	
RECOMMEND	ATIO	ONS:	(If	diff	ferent	fro	om NAS	SA)					
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REMARKS: A SHORT A IOA RECOM													

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ASSESSME	NT	:																	
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	I	HD	/FU	NC			A			В			C						
NASA IOA	[2	/1R /3]		[P]	[F]	[[P]		[X]	*
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REMARKS	:		. –								TO C	но	ימוני	מיזוז	TAG	c ,	೧೯		

NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF CAPABILITY TO MONITOR VALVE STATUS MAY LEAD TO FALSELY FAILING THE VALVE CLOSED POSSIBLY EFFECTING MISSION OPERATIONS.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	IT :	ID:	FRCS	/88 -761 KF-20)89 -	·2]	NASA DA BASELI N		;] ;]
SUBSYSTE MDAC ID:			FRCS 761 RESI	STOR,	1.2	K 2W					
LEAD ANA	LYS	r:	D. H	ARTMA	N.						
ASSESSME	NT:										
		FICAL		F	REDUN	DANC'	Y SCR	EENS		CII	
		FLIGH OW/FU	-	A	L	1	В	(C	ITE	EM
NASA IOA	[3	3 /3]	[]	[]]]	[[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DAT]	cons:	(I	f dif	fere	nt fi	com N	ASA)			
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KLMAKKS:											

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS	/88 -762 KF-208	37 –	1		N		DATA LINE NEW	[
SUBSYSTE MDAC ID:			FRCS 762 RESI	STOR,	5.1	K 1/4	W							
LEAD ANA	LYSI	? :	D. H	ARTMAI	N									
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
FLIGHT														
				A		E	3	C	2			14.4		
NASA IOA	HDW/FUNC A B C NASA [3 /3] [] [] [] IOA [3 /3] [] []] *	e	
COMPARE	[/	1	[]	[]	[]		[]		
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SUBSYSTEM MDAC ID: ITEM:	M:		FRCS 763 RESIST										
LEAD ANA	LYST	:	D. HAI	RTMAI	N								
ASSESSME	NT:												
(ICAL: LIGH		R	EDUND	ANCY	SCRE	ens			CIL		
		-	NC	A		В		С			ITE	. 7	
NASA IOA	[3	/3 /3]	[]	[]	[[]]]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMENI	DATI(ons:	(If	dif	ferent	t fro	om NAS	SA)					
	[/]	[]	[]	[[D/DI		ETE)
* CIL RET	rent:	ION 1	RATIONA	ALE:	(If a	appl:	icable	. Al	DEQUAT!]	
REMARKS: A SHORT A IOA RECON													

ASSESSME ASSESSME NASA FME	ENT	ID:	1/29/8 FRCS-7 05-6KI	764	37 - 1	· -		N	ASA DA BASELI N	NE	[x		
SUBSYSTE MDAC ID:			FRCS 764 RESIST	ror,	5.1F	(1/4)	W						
LEAD ANA	ALYS	T:	D. HAI	RTMAN	1								
ASSESSMI	ENT:												
	_	TICAL		RI	EDUNI	DANCY	SCRE	ENS			CIL		
		FLIGH DW/FU		A		В		C	2				
NASA IOA	[[3 /3 3 /3]	[]	[]	[]		[]	*
COMPARE	ſ	/]	[]	[)	[]		[]	
RECOMME	NDAT	cions:	(If	dif	fere	nt fr	om NA	SA)					
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* CIL R	ETEN	ITION	RATION	ALE:	(If	appl	icabl	4	ADEQUA' ADEQUA'		[]	
REMARKS	:												

NO DIFFERENCES.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/88 FRCS-76 05-6KF-	5 2091 - 1			ASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 765	R, 5.1K						
LEAD ANALYST:	D. HART	MAN						
ASSESSMENT:								
CRITICA FLIG		REDUNDA	NCY SCRI	EENS		CIL		
HDW/F		A	В	С		ITE	И	
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RECOMMENDATIONS	(If d	ifferent	from NA	SA)				
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REMARKS:				INAI	DEQUATE	į	ĵ	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-76 05-6KF-	6 2088 - 1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 766 RESISTC				
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCRE	ENS	CIL ITEM
	INC	A	В	С	
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COMPARE [/] [1	[]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicabl	.e) ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILS OPERATIONS.	IDANCY PR	OVIDED.	LOSS OF	INDICATION O	F THE VALVE

ASSESSME ASSESSME NASA FME	ENT 1	D:	FRCS-	767	091 -	·1]	NASA D BASEL		[] K]	
SUBSYSTE MDAC ID:			FRCS 767 RESIS	TOR	, 5.1	.K 1/41	W						
LEAD ANA	LYSI	r:	D. HA	RTM	AN								
ASSESSME	ENT:												
		TICAL FLIGH		I	REDUN	DANCY	SCR	EENS			CII	_	
		W/FU		2	A	В		(2		ITE	M	
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	ĵ]		[]	
RECOMMEN	DATI	ons:	(If	dii	fere	nt fro	om N	ASA)					
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* CIL RE	TENT	NOI	RATION	ALE:	(If	appli	icab	•			_		
									DEQUA'		[]	
REMARKS: A SHORT IOA RECO FMEA.	ACRO MMEN	SS A	RLR T EMOVAL	YPE OF	RESI THE	STOR 1	S N	OT A AILUF	CREDI	BLE E FR	FAI	LUR THI	E. S

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-768)88 - 1	NASA DATA: BASELINE [] NEW [X]							
	FRCS 768 RESISTOR									
LEAD ANALYST:	D. HARTM	AN								
ASSESSMENT:										
CRITICAL: FLIGH	ITY I	REDUNDA	NCY	SCREE	NS		CIL	M.		
 		A	В		С			-		
NASA [3 /3 IOA [3 /3] []]]	[]	[] *]		
COMPARE [/] []	[]	[]	[]		
RECOMMENDATIONS:	(If di	fferent	fro	om NAS	A)					
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* CIL RETENTION	RATIONALE	: (If a	ppli	icable	Al	DEQUATE DEQUATE	[]		
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILI OPERATIONS.	DANCY PRO	VIDED.	LOS	SS OF	ALL	REDUNDA	NCY	MAY LEAD		

ASSESSM ASSESSM NASA FM	ENT	I	D:	FRC	S-769	91 -	-1			ASA 1 BASE1		[x]	
SUBSYST MDAC ID ITEM:				FRC 769 RES		5 . :	1K 1/4V	v							
LEAD AN	ALY	ST	:	D.	HARTMA	N									
ASSESSM	ENT	:													
	CR		ICAI LIGH		R	EDUI	NDANCY	SC	REENS			CI	_		
	1		W/FU		A		В		С			LT	EM		
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COMPARE	[/)	[]]]	[]		[]	
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* CIL R	ETEI	T	ION	RATI	ONALE:	(II	f appli	.cal	•	DEQU <i>I</i>	יבוחו	_		7	
REMARKS	•									DEQUA		[]	
A SHORT IOA RECO	ACI														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	SA DATA: BASELINE NEW]									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 770 RESISTOR,	5.1K 1/4	ŀW									
LEAD ANALYST:	D. HARTMAN	ı										
ASSESSMENT:												
CRITICAL FLIGH		EDUNDANC	SCRE	ENS		CIL						
HDW/FU	_	I	3	С		****	•					
NASA [3 /3 IOA [3 /3] [] []	[]	[] *]					
COMPARE [/] [] []	[]	(]					
RECOMMENDATIONS:	(If dif	ferent f	rom NA	SA)								
[3 /2R] [P] []	P]	[P		[DD/DI] ELETE)					
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
POSITION. REDUN	THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE											

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSME ASSESSME NASA FME	NT II		FRCS-	771	91 -1				ASA DATA BASELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 771 RESIST	ror,	5.1K	1/4	v					
LEAD ANA	LYST	:	D. HAI	RTMAI	Ŋ							
ASSESSME	NT:											
1	CRIT			R	EDUNDA	ANCY	SCREI	ens		CIL		
		LIGH! W/FUI		A		В		С		ITE	M	
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COMPARE	C	/]	[]	[]	[[]	
RECOMMEN	DATIO	ONS:	(If	dif	ferent	t fro	om NAS	SA)				
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* CIL RE	TENT	ION I	RATIONA	ALE:	(If a	appli	icable	AI	DEQUATE	[]	
REMARKS: A SHORT IOA RECOREMEA.								r a c	CREDIBLE	FAI		

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-772 NASA FMEA #: 05-6KF-2088 -1																DATA: LINE NEW]			
SUBSYST MDAC ID ITEM:					FRO 77: RES	2	OR	,	5.1K	1/	′4W	ī									
LEAD AN	AL'	YS	T	•	D.	HAF	MTS	AN													
ASSESSM	EN'	T:																			
	C		F	LIGH!	r				DUNDA	ANC		SC	REE	NS				CIL			
		H	IDī	/FUI	NC		•	A			В				С						
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COMPARE	;	[/]		[]	[]		[]		[]		
RECOMME	ND.	ľA	CI(ons:		(If	di	ff	erent	t 1	fro	om	NAS	A)							
		[3	/2R]		[P	<u>,</u>	[P]		[P]	(A	[DD/D		ETE)	
* CIL R	ET	Εì	VT.	ION :	RAT	ION	ALE	:	(If	apı	pl:	ica	ble		AI IAI	DEQU DEQU	JATE JATE	[]		
REMARKS THIS FA POSITIO TO FALS OPERATI	NIL ON. SEL	Ϋ́	R F	EDIIN	DAN	CY 1	PRO	VI	DED.]	LOS	SS	OF	A]	ĽĽ	REL	UNDA	NCY	MA:	Y LEAL)
ISSUE N	TOI	. 1	RE	SOLV	ED	AT 1	MEE	TI	NG W	IT	H :	SUE	SYS	STI	EM	MAN	IAGER	ON	1/:	20/88	,

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS-	773	91 - 1	L		1	NASA DA' BASELII N] K]
SUBSYSTE MDAC ID:			FRCS 773 RESIS	TOR,	5.1	K 1/41	N				
LEAD ANA	LYST	:	D. HA	RTMA	N						
ASSESSME	NT:										
	CRIT	ICAL LIGH		R	EDUNI	DANCY	SCRI	EENS		CII	-
		W/FU	-	A		В		C	2	ITE	SM.
NASA IOA	[3 [3	/3 /3]	[]	[]	[]	[] *
COMPARE	ĺ	/]	[]	[3	[]	[]
RECOMMEN	DATI	ons:	(If	dif	ferer	nt fro	om NA	SA)			
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* CIL RE	TENT:	ION 1	RATION	ALE:	(If	appli	icab1	•			
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ASSESSME ASSESSME NASA FME	NT	II		FRCS-	-774					NASA DA' BASELI N	NE	[]	
SUBSYSTE MDAC ID:				FRCS 774 RESIS	STOR,	5.11	K 1/4W	ī						
LEAD ANA	LYS	T:	:											
ASSESSME	ENT:	:												
	CRI		CAL LIGH		RE	EDUNI	DANCY	SCRE	EENS			CIL		
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COMPARE	[N	/N	1	[]	(]	[]		[]	
RECOMMEN	NDA'	ri	ons:	(I	f dif	fere:	nt fr	om NA	ASA)					
	[/]	[]	[]	[]	(AI	[D/DC	-	ETE)
* CIL RI	e te i	NT:	ION	RATIO	NALE:	(If	appl	icab]		ADEQUAT TAUQADA		[]	
REMARKS FORWARD CHANGE	MA	NI: CI:	FOLD RCUI	ISOL	ATION SEE	VAL ASSE	VE #5 SSMEN	RE-Z	ANAI s Fi	LYZED BY	7 IO	OA D -110	UE 791	TO X.

ASSESSMENT DA ASSESSMENT II NASA FMEA #:		775				DATA: SELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 775 RESIST	OR, 5.1K	1/41	Ñ				
LEAD ANALYST	•							
ASSESSMENT:								
	ICALITY LIGHT	REDUND	ANCY	SCREE	NS		CIL	
	W/FUNC	A	В		С		ITEN	1
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COMPARE [N	/N]	[]	[]	[]		(]
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* CIL RETENT	ION RATIONA	LE: (If	appli		ADEQ	UATE	ָנַ	j
REMARKS: FORWARD MANIE CHANGE IN CIF	FOLD ISOLAT RCUITRY. S	ION VALV	E #5 SMENT	RE-AN	INADEQ ALYZED FRCS 1	BY IC	A DU	E TO

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SUBSYSTE MDAC ID: ITEM:				FRO 776 RES		5.1	LK 1/41	Ä						
LEAD ANA	LYS	ST	:											
ASSESSME	NT	:												
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RECOMMEN	NDA'	TI	ons:		(If dif	fer	ent fr	om N	IASA)					
	[/]	[]	[]	[]	(A)	[D D /) DELE	ETE)
* CIL RI	ETE	NT	ION	RAT	IONALE:	(I	f appl	icak		ADEQU ADEQU	JATE JATE	[]	
REMARKS FORWARD CHANGE	MA	NI CI	FOLI RCU) IS	OLATION . SEE	VA ASS	LVE #5 ESSMEN	RE-	-ANAL Os FR	YZED CS 11	BY I	0A -11	DUE 0792	TO

ASSESSM ASSESSM NASA FM	ENT	' I		FRCS	- 777					NASA D BASEL		[]
SUBSYST MDAC ID ITEM:				FRCS 777 RESIS	STOR,	5.1	K 1/4	W					
LEAD AN	ALY	ST	:										
ASSESSM	ENT	:											
	CR			ITY T	R	EDUN	DANCY	SCRI	EENS			CIL	
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* CIL RI	ETEI	NT]	ON 1	RATION	ALE:	(If	appl	icabl	•				
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ASSESSME ASSESSME NASA FME	ENT	II			-778					nasa i Base:	DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				FRCS 778 RESI	STOR,	5.1	K 1/4V	v						
LEAD ANA	ALY	ST	:											
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* CIL R		TN	ION	RATIO	ONALE:	(If	appl	ica	ble) Il	ADEQU NADEQU	ATE	[]	
REMARKS FORWARD CHANGE	MA	NI CI	FOLI RCU	ISO	LATION SEE A	VAI ASSE	VE #5 ESSMEN	RE T I	-ANAI	LYZED RCS 11	BY I	OA 1	OUE 079]	TO

ASSESSM ASSESSM NASA FM	ENT	I		FRCS-	779				1	NASA DA BASELI N]	
SUBSYST				FRCS 779 RESIS	ror,	5.1K	1/4	W						
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR		ICAL LIGH	ITY	R	EDUND.	ANCY	SCRE	ENS			CIL		
]		W/FU		A		В		(C		ITE	л	
NASA IOA	[3	/3]	[]	[]	[]		[] *	
COMPARE	[N	/N]	[]	[]	[]		[]	
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* CIL RI	ETE	NT:	ION 1	RATION	ALE:	(If a	appl	icable	7	ADEQUAT		[]	
REMARKS: FORWARD CHANGE	MAI	NII CII	FOLD RCUI	ISOLAT	TION SEE #	VALVI ASSESS	E #5 SMENT	RE-AN	NALY		IO	A DU	, JE TO 79X.	ı

ASSESSME ASSESSME NASA FME	NT	ID		FRCS-7	780				ħ	IASA DA' BASELI N		_]	
SUBSYSTE MDAC ID:				FRCS 780 RESIST	ror,	5.1K	1/4W	1						
LEAD ANA	LYS	ST:	:											
ASSESSME	ENT:	:												
	CRI			ITY	RI	EDUNDA	ANCY	SCREE	NS			CIL	4	
	I		JIGH' V/FU		A		В		(C			-	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
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RECOMME	NDA!	ric	ons:	(If	dif	feren	t fro	om NAS	SA)					
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ASSESSM ASSESSM NASA FM	ENT	' I		FRCS-	·781				1	NASA [BASE]		[]
SUBSYST: MDAC ID ITEM:				FRCS 781 RESIS	TOR,	5.1H	< 1/4	W					
LEAD AN	ALY	ST	:										
ASSESSMI	ENT	:											
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	FLIGHDW/F				[]	[]	[]		[] *
COMPARE	[N	/N]	[]	(]	[]		[]
RECOMMEN	IDA'	ri	ons:	(If	dif	feren	t fr	om NA	SA)				
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ASSESSME ASSESSME NASA FME	NT	II		FRC	:S-782				ì	IASA 1 BASE:	DATA: LINE NEW	-]	
SUBSYSTE MDAC ID:				FRC 782 RES		5.1	K 1/4W	ī						
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
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COMPARE	[N	/N]	[]	[]	ſ]		[]	
RECOMMEN	IDA'	TI	ons:	((If diff	ere	nt fro	om N	IASA)					
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* CIL RE	ETE:	NT	ION	RAT	ONALE:	(If	appli	cak		ADEQU ADEQU		[]	
REMARKS: FORWARD CHANGE	MA	NI CI	FOLE RCUI	ISC TRY	OLATION SEE A	VAL ASSE	VE #5 SSMENT	RE-	-ANAL Os FR	YZED CS 11	BY IC	A D	UE 792	TO

ASSESSMI ASSESSMI NASA FMI	ENT	I		FRC	S-783				ì	IASA DA BASELI N]	
SUBSYSTI MDAC ID: ITEM:				FRC 783 RES		5.1	.K 1/41	J					
LEAD ANA	YLY	ST	:										
ASSESSMI	ENT	:											
	CR			ITY	RI	EDUN	DANCY	SCR	EENS		CI		
	:		LIGH W/FU		A		В		c	:	IT	EM	
NASA IOA	[3	/3]	[]	[[]	[]	[] *	
COMPARE	[N	/N]	[]	ſ]	[]	[]	
RECOMMEN	IDA'	TI	ons:	(If diff	ere	nt fro	om N	ASA)				
	[/	1	[)	[]	[]	[(ADD/I] DELETE	5)
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DEWARKS										DEQUAT DEQUAT	-]]	
REMARKS: FORWARD CHANGE I	MAI	NII	FOLD RCUI'	ISO	LATION SEE A	VAL SSE	VE #5 SSMENT	RE-	ANALY s FRC	ZED BY	IOA I 1X-110	OUE TO)

ASSESSMI ASSESSMI NASA FMI	ENT	. I	D		FRCS-7	84				N	NASA I BASEI]	
SUBSYST MDAC ID ITEM:		:			FRCS 784 RESIST	or,	5.1K	1/4%	1						
LEAD AN	ALY	(S)	r:												
ASSESSM	ENT	r:													
	CF				TY	RE	DUNDA	NCY	SCREE	NS			CIL	K	
		_			IC I	A		В		(C		112.	•	
NASA IOA	FLIG HDW/I NASA [/ IOA [3 /3			/ /3]	[]	[]	[]		[]	*
COMPARE		[]	N	/N	1	[]	[]	[]		[]	
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REMARKS FORWARD	M	AN:	II	FOLD	ISOLA'	TION SEE A	VALV	E #5 SMEN'	RE-AN	IAL FR	YZED CS 11	BY IO	DA D	UE 791	TO

ASSESSM ASSESSM NASA FM	ENT	I		FRO	CS-785					ASA DA BASELI N]	
SUBSYST MDAC ID ITEM:				FRO 785 RES	-	5.1	LK 1/4V	J					
LEAD AN	ALY	ST	:										
ASSESSM	ENT	:											
	CR				RI	EDUN	IDANCY	SCF	REENS		CI		
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COMPARE	ĺ	N	/N]	Į.]	[)	[]	[]	
RECOMME	NDA'	TIC	ons:	((If diff	fere	ent fro	m N	IASA)				
	[/]	[]	[]	[]	[(ADD/)	-	TE)
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REMARKS: FORWARD CHANGE	MAI	NII	FOLD RCUI	ISC TRY.	LATION SEE A	VAL SSE	VE #5 SSMENT	RE-	ANALY	ZED BY S 1100	IOA 1 1X-11	OUE !	ro •

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-	786				N	IASA DA BASELI N	NE	[]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 786 RESIS	ror,	5.1K	1/4W	ī						
LEAD ANALYST:											
ASSESSMENT:											
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NASA [/ IOA [3 /]	[]	[]	[]		[] *	į
COMPARE [N /	4]	[]	[1	[]		[1	
RECOMMENDATION	S: (If	dif	feren	t fro	om NAS	SA)					
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REMARKS: FORWARD MANIFO CHANGE IN CIRC	LD ISOLA UITRY.	TION SEE	VALV ASSES	E #5 SMEN'	RE-AN I IDs	NAL FR	YZED BY CS 1100	/ I(OA DI -110	UE 1 79X.	0

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SUBSYST MDAC ID ITEM:				FRCS 787 RESIS	TOR,	5.1	LK 1/41	Ä						
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR		ICAL LIGH	ITY	R	EDUN	IDANCY	SCR	EENS			CIL		
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RECOMME	NDA'	TI	ONS:	(If	dif	fere	nt fro	om N	ASA)					
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ASSESSME ASSESSME NASA FME	ENT	II		FRCS-7	88				ì		DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				FRCS 788 RESIST	or,	1.2K	2W							
LEAD ANA	ALY	ST	;											
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NASA IOA]	3	/3]	[]	[]	[]]		[]	*
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ASSESSMEN ASSESSMEN NASA FME	NT	I		FRCS-	789				N	IASA D BASEI		[]	
SUBSYSTEM MDAC ID:	M:			FRCS 789 RESIS	ror,	1.2K	2W							
LEAD ANA	LY	ST	:											
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ASSESSME ASSESSME NASA FME	ΝT	II		FRCS	5 - 790				1	NASA I BASEI		[_	
SUBSYSTE MDAC ID: ITEM:				FRCS 790 MAN	S [FOLD]	L, C	X & F	J IS	ol V	LV SW	гтсн			
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
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SUBSYSTE MDAC ID: ITEM:	M:			FRCS 791 MANIF	OL	D :	1, ox	: &	F	U IS	OL '	ΛΓ	V SWI	гсн			
LEAD ANA	LY	ST	:														
ASSESSME	NT	:															
	CR		ICAL LIGH			R	EDUND	AN	CY	SCR	EEN:	S			CIL		
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LEAD ANA	LYS	T:															
ASSESSME	NT:	:															
	CRI			ITY		RE	DUNI	DAN	CY	SCR	EEN:	S			CIL		
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NASA IOA	[[3	/ /2R]	[P]]	P]	[P]		[]	*
COMPARE	[N	/N]	[N]	[N	1	[N]		[]	
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REMARKS: MANIFOLI ANALYZEI	1	Ý	OXID	IZER A	ND AS	F SE	UEL SSME	ISC NT	LA ID	TION s FF	VA RCS	LV 11	E SWI 095X-	ТСН 110	30 99X.	RE	-

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SUBSYSTE MDAC ID: ITEM: CONTACTS		FRCS 793 MANI		OX & FU IS	OL VLV SWIT	CH OPEN
LEAD ANA	LYST:					
ASSESSME	NT:					
	FLI			INDANCY SCR	EENS	CIL ITEM
	HDW/	FUNC	A	В	С	
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REMARKS:			·		ADEQUATE	
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ASSESSMEN ASSESSMEN NASA FME	TN	II		FRCS-	794					ASA D. BASEL		[]	
SUBSYSTEMDAC ID: ITEM: CONTACTS				FRCS 794 MANIF	OLD	1, 0	K & F	U ISC	OL VI	V SWI	тсн	OPE	N	
LEAD ANA	LYS	ST	:											
ASSESSME	NT:	:												
1	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
	I				A		E	3	C	:				
NASA IOA	[3	/3]	((]]	[]	[]		[]	*
COMPARE	[N	/N	3	(]	[]	נ]		[]	
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REMARKS: MANIFOLD ANALYZED					ND F ASSE	UEL SSME	ISOL? NT II	ATION Os FR	VALV	Æ SWI LO95X-	TCH 110	30 99X.	RE-	,

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	-795]	NASA D. BASEL		[]	
SUBSYSTE MDAC ID: ITEM: 3, 4			FRCS 795 MANI	FOLD	1, 0	X & :	FU IS	OL V	LV SWI	тсн	GPC	CON	PACTS
LEAD ANA	LYS	r:											
ASSESSME	NT:												
		TICAL FLIGH	ITY	I	REDUN	DANC'	Y SCR	EENS			CIL		
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NASA IOA	[:	3 /3]	[[]	[]	[]		[] *	
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REMARKS: MANIFOLD	1.	חדצם	TZER A	ב ממי	. Tain	TGOT	MT ON	173 T T	TE CUTE	nou	20 1	DF_	
ANALYZED	BY	IOA.							L095X-			<u> </u>	

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SUBSYSTEM MDAC ID: ITEM: 3, 4	M:		FRCS 796 MANIFO	DLD 1	L, ox	& FU	J ISOI	Z VLV	SWITCH	GPC	CONTACTS			
LEAD ANA	LYST	:												
ASSESSME	NT:													
•	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
NASA IOA	[3	/3]	[]	[]	[]	[] *]			
COMPARE	[N	/N	1	[]	[]	[1	[]			
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REMARKS: MANIFOLD ANALYZED	1.	OXII	OIZER A	ND F	UEL I SSMEN	SOLA T ID	TION '	VALVI S 110	E SWITCH 095X-110	30 99X.	RE-			

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SUBSYSTE MDAC ID: ITEM: CONTACTS		, (6	FRCS 797 MANI		1, (OX & F	J IS	SOL VI	LV SWIT	СН	CLC	SE	
LEAD ANA	LYS	ST:	:											
ASSESSME	NT:	;												
	CR1		CAL LIGH	ITY T	R	EDU	NDANCY	SCR	REENS			CIL	_	
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DEWA DVC .										DEQUAT:		[[]	
REMARKS: MANIFOLD	1	c	מדצו.	TZED :	AND EI	IRT.	TEOTAT	יד 🗥 א	* *********	T CWIM	OU.	20	מת	
ANALYZED				SEE	ASSES	SSME	ENT IDS	FR	CS 11	095X-1	сп 109	9X.	KL-	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-798			NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5, 6	FRCS 798 MANIFOLD	1, OX 8	FU ISOL	VLV SWITCH	CLOSE
LEAD ANALYST:					
ASSESSMENT:					
CRITICAL		REDUNDAI	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [/ IOA [3 /2]] [] P]	[] [F]	[] [P]	[x] *
COMPARE [N /N] [и]	[N]	[N]	[N]
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[/] []	[]	[]	[] .DD/DELETE)
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REMARKS: MANIFOLD 1, OXI ANALYZED BY IOA	DIZER AND . SEE ASS	FUEL IS	OLATION '	VALVE SWITCH 5 11095X-110	1 30 RE- 199X.

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SUBSYST MDAC ID ITEM:				FRO 799 MA N	_	2,	OX & 1	FU I	SOL V	LV SW	ІТСН	Ī		
LEAD AN	ALY	ST	':											
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		F	LIG	łT		EDUI	NDANCY	sci	REENS			CI	L EM	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-800)		NASA DAT BASELIN NI		_
DODD-1-1-1	FRCS 800 MANIFOLI	o 2, ox	& FU ISO	L VLV SWITC	СН	
LEAD ANALYST:						
ASSESSMENT:						
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REMARKS: MANIFOLD 2, OXII ANALYZED BY IOA.	DIZER AND SEE AS	FUEL I SESSMEN	SOLATION T IDs 111	VALVE SWIT .00X-11104X	CH 31	RE-

ASSESSMI ASSESSMI NASA FMI		FRCS-801	L		NASA DAT BASELIN NE]
SUBSYSTEMDAC ID		FRCS 801 MANIFOLD) 2, OX	& FU ISC	OL VLV SWITC	:H	
LEAD AND	ALYST:						
ASSESSMI	ENT:						
	CRITICAL: FLIGH		REDUND	ANCY SCRE	EENS	CII	_
	HDW/FU	NC	A	В	С		
NASA IOA	[/ [3 /2R] [P]	[] [P]	[] [P]	[] *
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REMARKS: MANIFOLI ANALYZEI	2, OXID	ZER AND SEE ASS	FUEL IS	SOLATION F IDs 111	VALVE SWITC	•	•

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SUBSYSTEM MDAC ID: ITEM: CONTACTS		, 2		FRC 802 MAN		D	2	, 0	X	&	FU	IS	SOL	VI	LV S	WIT	СН	OP	EN		
LEAD ANA	LYS	ST:	:																		
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NASA IOA	[3	/ /2R]	[?]]	F]	[] P]			[X]	*
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REMARKS: MANIFOLD ANALYZED	` ~	, SY	OXII	DIZE:	R AN EE A	D SS	FU ES	JEL SSM	IS ENT	50 [LA ID	TIO s 1	N V.	AI XO	VE (-11	SWI'	rch X.	31	L]	RE	-

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SUBSYSTE MDAC ID: ITEM: CONTACTS				FRCS 803 MANIF	OLD	2, 0	X & F	U ISO	OL VI	LV SWI	тсн	OP	EN	
LEAD ANA	LYS	ST:												
ASSESSME	NT:	:												
	CRI		CAL	ITY r	R	EDUN	DANCY	SCRE	ENS			CI:		
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NASA IOA	[3	/ /3]	[]]]	[]		[]	*
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SUBSYSTEMDAC ID: ITEM: 3, 4	M:			FRCS 804 MANIFO	OLD 2	e, ox	& FU	J ISOI	. ATA	SWITCH	GPC	CONTACTS
LEAD ANA	LYS	T:	;									
ASSESSME	NT:	:										
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ASSESSME ASSESSME NASA FME	NT ID:	FRCS-	805]	NASA DAT BASELIN NE		
SUBSYSTE MDAC ID: ITEM: 3, 4		FRCS 805 MANIF	OLD	2, 0	X & :	F U IS	OL V	LV SWITC	H GPC	CONTACTS
LEAD ANA	LYST:									
ASSESSME	NT:									
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COMPARE	[N /N]	[]	[]	[1	(]
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ANALYZED	BY IOA.	SEE 2	ASSE	SSME	II TV)s 11	100X-	·11104X.		

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SUBSYSTEMDAC ID: ITEM: CONTACTS		, (FRCS 806 MANIFO	LD 2	, ox	& FU	ISOL	, V]	LV SWIT	СН	CLO	SE	
LEAD ANA	LYS	ST	:											
ASSESSME	NT:	:												
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NASA IOA]	3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	ſ]	[1		(]	
RECOMMEN	'DA'	TI	ons:	(If	dif:	feren [.]	t fr	om NAS	SA)					
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REMARKS: MANIFOLE ANALYZEE	1 2	Ý	OXII	DIZER A	ND F ASSE	UEL I SSMEN	SOLA T ID	TION TION	IAV KOO	VE SWIT	rch X.	31	RE	-

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-807	,		NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5, 6	FRCS 807 MANIFOLD	2, OX	& FU ISC	DL VLV SWITCH	f CLOSE
LEAD ANALYST:					
ASSESSMENT:					
CRITICAL: FLIGHT	ITY I	REDUND	ANCY SCRE	EENS	CIL ITEM
HDW/FU	1C	A	В	С	
NASA [/ IOA [3 /2R] [P]	[] [F]	[] [P]	[] * [X]
COMPARE [N /N] [и ј	[N]	[N]	[и]
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SUBSYSTEMDAC ID:	M:		FRCS 808 MANI	FOLD	3, 0	K & F	u Is	OL VI	v swi	TCH.			
LEAD ANA	LYSI	? :											
ASSESSME	NT:												
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REMARKS: MANIFOLI	3,	OXII	DIZER SESSMI	AND I	FUEL Ds FR	ISOL	ATION 1105}	VAL'	VE SW	ITCH	RE-	-AN	ALYZED

ASSESSME	INT DATE:	EDGG 04						A DATA		
NASA FME		FRCS-80) 9				ВА	SELINE NEW]
SUBSYSTE MDAC ID: ITEM:		FRCS 809 MANIFOI	: סב	3, ox	&]	TU IS	OL VLV	SWITCH		
LEAD ANA	LYST:									
ASSESSME	NT:									
	CRITICAL:		RI	EDUNDA	WC?	SCR	EENS		CIL	
	HDW/FU		A		F	3	С		115	М
NASA IOA	[/ [3 /2R] [P]	[[E)	[] [P]		[] *]
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RECOMMEN	DATIONS:	(If d	liff	erent	fr	om N	ASA)			
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MANIFOLD BY IOA.	3, OXIDI	ZER AND ESSMENT	FU IDs	EL IS	OLA 11	TION 105X-	VALVE :	SWITCH	RE-A	ANALYZED

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-810			NASA DATA: BASELINE NEW	[]
MDAC TD:	FRCS 810 MANIFOLD	3, OX & 1	FU ISOL	VLV SWITCH		
LEAD ANALYST:						
ASSESSMENT:						
	ITY R	EDUNDANC	Y SCREEN	S	CIL ITEM	ī
FLIGH HDW/FU	NC A		В	С		•
NASA [/ IOA [3 /2R] [] [P] [] [P] [P]	[] *]
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RECOMMENDATIONS:	(If dif	ferent f	rom NASA	.)		
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* CIL RETENTION	RATIONALE:	(If app	licable) I	ADEQUATE NADEQUATE	[]
REMARKS: MANIFOLD 3, OXII BY IOA. SEE ASS	IZER AND FESSMENT ID	TUEL ISOI Os FRCS 1	ATION VA	LVE SWITCH	RE-A	ANALYZED

ASSESSMENT DATE:		NASA	DATA:
ASSESSMENT ID: NASA FMEA #:	FRCS-811	BAS	ELINE [] NEW []
MDAC ID:	FRCS 811 MANIFOLD 3, OX	(& FU ISOL VLV S	WITCH OPEN
LEAD ANALYST:			
ASSESSMENT:			
CRITICALI FLIGHT		ANCY SCREENS	CIL ITEM
HDW/FUN	IC A	В С	1111
NASA [/ IOA [3 /2R] []] [P]	[] [] [F]	[
COMPARE [N /N	ן א]	[N] [N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)	
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* CIL RETENTION F	RATIONALE: (If	·	
REMARKS:		ADEQ INADEQ	UATE [] UATE []
MANIFOLD 3, OXIDI	ZER AND FUEL I	SOLATION VALVE S S 11105X-11109X.	WITCH RE-ANALYZED

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				nasa da Baseli 1]							
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	FRCS 812 MANIFOLD	3, OX &	FU ISO	L VLV SWI	гсн ор	EN							
LEAD ANALYST:													
ASSESSMENT:													
V-1.		EDUNDANC	Y SCRE	ENS									
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
NASA [/ IOA [3 /3] [] []	[]	[[] *]							
COMPARE [N /N] [] []	[]	ſ]							
RECOMMENDATIONS	: (If dif	ferent i	rom NA	ASA)									
(/] [] []	[]	[(ADD/] 'DELETE)							
* CIL RETENTION	RATIONALE:	(If app	plicab	.e) ADEQUA INADEQUA]							
REMARKS: MANIFOLD 3, OXI BY IOA. SEE AS	DIZER AND F SESSMENT ID	UEL ISO	LATION 11105X-	VALVE SWI -11109X.	TCH RE	E-ANALYZED							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-813		nasa dat Baselin Ne]
SUBSYSTEM: MDAC ID: ITEM: 3, 4	FRCS 813 MANIFOLD 3,	OX & FU IS	OL VLV SWITC	H GPC	CONTACTS
LEAD ANALYST:					
ASSESSMENT:					
CRITICAL FLIGH		JNDANCY SCR	EENS	CIL	
HDW/FU		В	С	IIE.	M
NASA [/ IOA [3 /3] []	[]	[]	[] *]
COMPARE [N /N] []	[]	[]	[1
RECOMMENDATIONS:	(If differ	rent from N	ASA)		
[/] []	[]	[]] ELETE)
* CIL RETENTION	RATIONALE: (I	f applicab	ADEQUATE]
REMARKS: MANIFOLD 3, OXID BY IOA. SEE ASS				•	J ANALYZED

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SUBSYSTEM MDAC ID: ITEM: 3, 4	1:			FRCS 814 MANIFO	OLD 3	s, ox	& FU	ISOL	, VLV	switch	GPC	CONTACTS
LEAD ANA	LYS	T:										
ASSESSME	NT:	;										
	CRI				RI	EDUNDA	ANCY	SCREE	ens		CIL	
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C												
NASA IOA	[3	/3]	[]	[]	[]	[[] *]
COMPARE	[N	/N]	C]	[]	[]	C]
RECOMMEN	DA!	ri	ons:	(If	dif	feren	t fr	om NAS	SA)			
	[/]	[]	[]	[] (A	[DD/D] ELETE)
* CIL RE	TE:	NT	ION	RATION	ALE:	(If	appl	icabl	A	DEQUATE DEQUATE]
REMARKS: MANIFOLI BY IOA.	3	, EE	OXII ASS	DIZER A	ND F	UEL I s FRC	SOLA S 11	TION 105X-	VALV 1110	E SWITCH 9X.	H RE-	ANALYZED

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SUBSYSTE MDAC ID: ITEM: CONTACTS	;	FRCS 815 MANIF	OLD	3, OX	(& F	TU IS	OL VI	LV SWIT	CH CIA	OSE	
LEAD ANA	ALYST:										
ASSESSME	ENT:										
	CRITICAL FLIGH		R	EDUND	ANCY	SCRI	EENS		CII	_	
	HDW/FU	NC	A		В	1	C	:	TIL	.P1	
NASA IOA	[3 /3]	[]	[]	[]	[[] *	
COMPARE	[N /N]	[]	[]	[]	[]	
RECOMMEN	DATIONS:	(If	dif:	feren	t fr	om NA	SA)				
	[/]	[3	[]	[] ([ADD/D		Ξ)
* CIL RE	TENTION I	RATIONA	LE:	(If	appl	icabl	e)				
REMARKS:							INA	DEQUATE DEQUATE	į]]	
MANIFOLD BY IOA.	3, OXIDI SEE ASSE	ZER AN ESSMENT	D FU	JEL IS FRCS	SOLA:	rion 105x-	VALV: 1110:	E SWITC	H RE-	ANALY	ZEI

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SUBSYSTEM MDAC ID: ITEM: CONTACTS		6		FRC 816 MAN		'nD	3	, 0	X &	FU	J IS	SOL	VL	v sw	ІТСН	CI	os	E	
LEAD ANAL	YSI	r:																	
ASSESSMEN	T:																		
C			CAL]				RE	DUN	DAN	CY	SCI	REEN	IS			CI	L	Ī	
		_	JGHT /FU				A			В			C	;					
NASA IOA	[;	3	/ /2R]	!	[P]	[[F]] [·]		[x]	*
COMPARE	[]	N	/N]		[N]	[N]	!		1]		[N]	
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	(/]		[]	(3	1	[]	(A		/D1		ETE)
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REMARKS: MANIFOLD BY IOA.		E	OXID ASS	IZEI ESSI	R AN MENT	D ':	F'ID:	UEL s FI	ISC RCS	LA 11	TIO 105	N V.	AL 11	VE SI	WITCH	I R	E-	AN	ALYZED

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SUBSYSTEMDAC ID:	M:		FRCS 817 MANIF	'OLD	4, 0	X & 1	~U IS	OL V	LV SWI	гсн			
LEAD ANA	LYSI	?:											
ASSESSMEI	NT:												
('ICAL 'LIGH'		R	EDUN	DANCY	SCR	EENS			CIL		
	HD	W/FU	NC	A		E	3	C	2		TIE	M	
NASA IOA	[3	/3]]]	[]	[]		[]	*
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MANIFOLD ANALYZED	4, BY	OXIDI	ZER AI SEE A	ND FI	JEL I SSMEN	SOLA T ID	TION s FRO	VALV CS 11	E SWIT 110X-1	СН 111	33 F 4X.	₹E-	

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SUBSYSTEMDAC ID:				FRCS 818 MANIF	OLI) 4	١,	ox &	FI	u Is	OL V	7LV	/ SW	ІТСН			
LEAD ANA	\LY:	ST	:														
ASSESSMI	ENT	:															
	CR					RI	EDU	JNDAN	CY	SCR	EENS	3			CIL		
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												111	M				
NASA IOA	[3	/ /2R]	C A B [] [] [] [P] [P] [P]		[]	*
COMPARE	[N	/N]	[N]	[N]	[N)		[]	
RECOMME	NDA	TI	ons:	(If	đ	if	fer	rent	fr	om N	ASA))					
	(/]	[]	[]	[]	(A	[DD/E)ELJ	ETE)
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REMARKS			AVTD	ב ממוס	MP	1 21	י ישר ז	r tea	T >	TT (N						•	_
MANIFOLI ANALYZE					AS:	rı SE	SS)	MENT	ΙD	s FR	CS :	11:	110X	-111	14X.		
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SUBSYSTIMDAC ID:				FRCS 819 MANIFO	ΟL	D 4	1, 0	ОX	&	FU	J IS	OL '	VĽ	v sw	итсн			
LEAD AN	ALY	ST	:															
ASSESSMI	ENT	:																
	CR		ICAL LIGH	ITY r		RI	EDUN	NDA:	NC	CY	SCR	EEN:	3			CIL		
	;	HD	W/FU	NC														
NASA IOA	[3	/ /2R]										[]	*		
COMPARE	[N	/N	J	[N]		[N)	[N]		[)	
RECOMMEN	NDA'	TI	ons:	(If	d:	ifí	ere	ent	f	rc	om N	(ASA))					
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REMARKS:																•	_	
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WINNTIGE	, ס	I.	TOW.	oce P	725	ುದಿರ	ome	T.M.T.	ı	. US	rk	CS.	LLJ	ΓΤΟΧ	-111	L4X.		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-820			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	FRCS 820 MANIFOLD	FU ISOL	VLV SWITCH	OPEN	
LEAD ANALYST:					
ASSESSMENT:					
CRITICAI FLIGH		REDUNDAI	NCY SCREE		CIL ITEM
HDW/FU	INC	A	В	С	
NASA [/ IOA [3 /2F] [] P]	[] [F]	[] [P]	[X] *
COMPARE [N /N] [и]	[и]	[N]	[N]
RECOMMENDATIONS	(If di	fferent	from NAS	A)	
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REMARKS: MANIFOLD 4, OXI	חמג משקדר	FILET. TS	отаттом у	ALVE SWITCH	33 RE-
ANALYZED BY IOA		ESSMENT	IDs FRCS	11110X-111	14X.

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SUBSYSTE MDAC ID: ITEM: CONTACTS		, ;		FR 82 MA	-	4, (OX & F	u is	SOL V	LV SV	VITCH	OP	EN	
LEAD ANA	LY	ST	:											
ASSESSME	'nТ	:												
	CR		ICAI LIGH	ITY T	RI	EDUN	NDANCY	SCR	EENS			CI	L EM	
	1	HDI	W/FU	NC	A		В	,	(2				
NASA IOA	[3	/3]]]	[[]	[[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	'DA'	ric	ons:	:	(If diff	ere	ent fr	om N	ASA)					
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* CIL RE	TE	NT:	ION	RAT]	IONALE:	(If	appl	icab	P	ADEQU	JATE JATE	[]	
REMARKS: MANIFOLD									VALV	Æ SW	ITCH	33	RE-	

ASSESSME ASSESSME NASA FME	NΤ	II			5-822					ASA DATA: BASELINE NEW]
SUBSYSTE MDAC ID: ITEM: 3, 4	м:			FRCS 822 MAN		, ох	(& F	U IS	OL VL	V SWITCH	GPC	CONTACTS
LEAD ANA	LYS	ST	:									
ASSESSME	NT:	:										
CRITICALITY REDUNDANCY SCREENS CIL												
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												•
NASA IOA	HDW/FUNC A B C NASA [/] [] []] *
COMPARE	[N	/N]	[]	[]	ſ]	[]
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REMARKS: MANIFOLI ANALYZEI	4				AND FU E ASSES	JEL SSME	ISOLA NT II	ATION Ds FR	VALV	/E SWITCH L110X-111	33 14X.	RE-

ASSESSME NASA FME	ENT	ID:	-	S-823				•	NASA D BASEI		[]	
SUBSYSTE MDAC ID: ITEM: 3, 4			FRCS 823 MAN	_	4, 0	OX & :	FU IS	SOL V	LV SWI	тсн	GPC	CONTA	CTS
LEAD ANA	LYS'	r:											
ASSESSME	NT:												
		FLIG	LITY HT	1	REDUN	IDANC'	Y SCR	EENS			CIL		
			UNC	2	A	1	В	(2		411	M	
NASA IOA	[:	3 /3]	[]		[] *					
COMPARE	[]	N / N]	[]	[]	[]		[]	
RECOMMEN	DAT	CONS	: (1	f dif	ffere	nt fi	rom N	ASA)					
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REMARKS:								INA	DEQUA'	TE TE	[]	
MANIFOLD ANALYZED	4, BY	OXII	DIZER SEE	AND F	TUEL ESSME	ISOL!	ATION Os FR	VALV	'E SWI'.	ГСН 1111	33 1 4X.	RE-	

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SUBSYSTEMDAC ID: ITEM: CONTACTS				FRCS 824 MANIFO	OLD 4	4, ox	& FU	ISOI	, ATA	/ SWIT	СН	CLOS	3E	
LEAD ANA	LYS	ST	:											
ASSESSME	NT	:												
	CR:			ITY	RI	EDUND#	NCY	SCREE	ens			CIL		
]		LIGH W/FU	NC	A		В		С					
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[1	[]	[]		[]	
RECOMMEN	DA'	TI	ons:	(If	dif:	ferent	t fro	om NAS	SA)					
	[/	1	[]	[]	[]	(AI	[DD/D] ELF	ETE)
* CIL RE	TE	NT	ION	RATION	ALE:	(If a	appl	icable	A	DEQUAT DEQUAT]	
REMARKS: MANIFOLD ANALYZED	4			IZER A	ND F	UEL IS	SOLA'	rion v	VALV	E SWIT 110X-1	CH 11	33 14X.	RE-	-

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NASA FME									NEW	_]	
SUBSYSTEM MDAC ID: ITEM: CONTACTS		FRCS 825 MANIFOL	D (4, OX	& F	U ISO	L V	LV SW	ІТСН	C:	LOS	SE	
LEAD ANAI	LYST:												
ASSESSMEN	NT:												
c	CRITICAL FLIGH		RI	EDUND	ANCY	SCRE	ENS				IL FEN	<i>T</i>	
	HDW/FU		A		В			С		-		•	
NASA IOA	[/ [3 /2R] [P]	[[F]	[] P]		[x]	*
COMPARE	[N /N] [N]	[N]	[и ј		[N]	
RECOMMEND	ATIONS:	(If d	ifi	ferent	t fr	om NAS	SA)						
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* CIL RET	ENTION 1	RATIONAL	E:	(If a	appl	icable	•			_			
REMARKS:								ADEQU <i>A</i> ADEQU <i>A</i>		[]	
MANIFOLD ANALYZED	4, OXID	ZER AND	FU	JEL IS	OLA:	ZON T	/AL	VE SWI	тсн	33	F	₹E-	•
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SUBSYSTE MDAC ID: ITEM:				FRCS 826 MANIE	FOLD 5	s, ox	& FU	J ISOL	, VI	LV SWIT	СН			
LEAD ANA	LYS	ST:	:											
ASSESSME	NT:	:												
	CR				RI	EDUND	ANCY	SCREE	ns			CIL		
	1		JIGH V/FU	NC NC	A		В		(С				
NASA IOA	[3	/]	[]	[]	[[]		[]	*
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SUBSYST MDAC ID ITEM:				FRCS 827 MANIF	OL	D !	5,	ox	&	F	נ נ	ISOL	VĽ	v s	WITC	СН			
LEAD AN	ALY	ST	:																
ASSESSMI	ENT	:																	
		F	ICAL LIGH W/FU			RI A	EDU	NDA	NC	ey B	sc	CREEN	s c				CII ITE	_	
		***	, 10.			A				D			C						
NASA IOA		3	/ /2R]	[P]		[P]	[P]			[]	*
COMPARE	[N	/N]	[N]		[N]	[N]			[]	
RECOMMEN	IDA	TI	ons:	(If	d:	ifí	fer	ent	f	rc	m	NASA)						
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REMARKS:									_			•			JATE JATE		[[]	
FORWARD CHANGE I	MA	NII CII	FOLD RCUII	ISOLAT	PIC SEI	ON E A	VA: ASSI	LVE ESSN	# IE	5 NT	RE 'I	-ANA] Ds Fi	LYZ	ED	BY .001	IO X-	A D	UE 793	TO

ASSESSME	ASSESSMENT DATE: ASSESSMENT ID: FRCS- NASA FMEA #: SUBSYSTEM: FRCS														DATA LINI NE	E		-	
SUBSYSTE MDAC ID:				FRCS 828 MANI		5	;,	ox	&	FU	IS	OL '	VĽ	7 SV	VITC:	н			
LEAD ANA	LYS	ST	:																
ASSESSMI	ENT	:																	
	CR		ICAL LIGH	ITY T		RF	EDU	NDA	NC	Y	SCF	REEN					CIL		
	1	HDI	W/FU	NC		A				В			С						
NASA IOA	[3	/ /2R]	[[P]		[P]	[[P]			[]	*
COMPARE	[N	/N]	[N]		[N]	[N]			[]	
RECOMME	NDA'	TI	ons:	(I	f di	.f1	fer	ent	: 1	fro	om 1	NASA)						
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REMARKS FORWARD CHANGE	MA	NI CI	FOLD R C UI	ISOI TRY.	ATIC SEE	ON E 1	VA ASS	LVI	E †	‡5 ≘N∵	RE-	-ANA	LY:	ZED	ву	I	DA I	OUE	TO X.

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SUBSYSTE MDAC ID: ITEM: CONTACTS		2		FRCS 829 MANIFO	OLD 5	5, ox	& FU	J ISOI	r Ar	V SWIT	'CH	OPE	N	
LEAD ANA	LYS	T:	:											
ASSESSME	NT:													
					RI	EDUNDA	NCY	SCREE	ens			CIL		
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C													*1	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DAT	'IC	ons:	(If	difi	erent	fro	om NAS	SA)					
	[/]	[]	[]	(]	(AI	[DD/DI] ELE	TE)
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REMARKS:									INA	DEQUAT	E		j	
FORWARD I										ZED BY S 1100				

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SUBSYSTE MDAC ID: ITEM: CONTACTS	;			FRCS 830 MANIFO	OLD 5	5, ox	& FU	J ISOI	. VL	V SWIT	СН	OPEI	Ŋ	
LEAD ANA	LY	ST	:											
ASSESSME	ENT	:												
	CR			ITY	RI	EDUNDA	ANCY	SCREE	ENS			CIL		
	1		LIGH W/FU	NC	A		В		С			1111	•	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
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SUBSYSTE MDAC ID: ITEM: 3, 4			FRCS 831 MANII	FOLD	5, 0	X & 1	FU IS	SOL V	LV SWI	тсн	GPC	CONTACT	s
LEAD ANA	LYS	T:											
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		TICAL FLIGH	ITY	1	REDUN	DANC	Y SCR	EENS			CIL	_	
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SUBSYSTE MDAC ID: ITEM: 3, 4	M:			FRCS 832 MANIFO	LD 5	, ox	& FU	ISOL	VLV	SWITCH	GPC	CONTACTS
LEAD ANA	LYS	T:										
ASSESSME	NT:	;										
	CR1			ITY	RE	DUNDA	NCY	SCREE	ns		CIL	4
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REMARKS FORWARD CHANGE	MA	NI CI	FOLI RCU]	ISOLA	TION SEE	VALV ASSES	E #5 SMEN'	RE-A	NALY? FRC	ZED BY I S 11001X	OA D	UE TO 79X.

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LEAD ANA	YLY	ST	:											
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	CR		ICAI LIGH	YTI.	R	EDU	NDANCY	SCI	REENS			CI:	_	
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NASA IOA	[[3	/3]	[]	[]	[[]		[]	*
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	[/]	Ţ]	[]	[]	(AI	[1\dc] DELE	TE)
* CIL RE	TEI	VT]	ON	RATI	ONALE:	(I:	f appl:	icab	ole)					
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LEAD ANA	LYS	ST:	:															
ASSESSME	NT	:																
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SUBSYSTEM MDAC ID: ITEM: CONTACTS			FRCS 835 MANIFO	ΟLI	D!	5, ox	&	FU	J ISO1	٠, ٦	VL7	J SWITC	ΣН	01	PEI	7	
LEAD ANAL	YST:																
ASSESSMEN	T:																
C		CALI IGHT	TY		RI	EDUND?	/N(CY	SCREE	ENS	5				IL PEN	ď	
		/FUN			A			В			С				L	1	
NASA IOA	[3	/ /2R]]	P]]	F]	[P]		[x]	*
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SUBSYSTEMDAC ID: ITEM: CONTACTS		, 8	J	FRCS 836 MANIFO	OLD 5	, ox	& FU	ISOL	, VI	V SWITCH	OPE	ī		
LEAD ANA	LEAD ANALYST:													
ASSESSMENT:														
	CR			YTI	RE	DUNDA	MCA	SCREE	ens		CIL			
	1				A		В		(C				
NASA IOA	[FLIGHT HDW/FUNC [/] [3 /3]]	[]	[[]	[]	[] *]		
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				_	[1	ſ]	[] ([ADD/D] ELETE)		
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FORWARD	REMARKS: FORWARD MANIFOLD ISOLATION VALVE #5 RE-ANALYZED BY IOA DUE TO CHANGE IN CIRCUITRY. SEE ASSESSMENT IDS FRCS 11001X-11079X.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-837		NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM: 9, 10	FRCS 837 MANIFOLD 5,	OX & FU ISOL	VLV SWITCH	GPC CONTACTS
LEAD ANALYST:				
ASSESSMENT:				
CRITICAL: FLIGHT		NDANCY SCREEN	ıs	CIL
HDW/FU	IC A	В	С	ITEM
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FORWARD MANIFOLD CHANGE IN CIRCUIT	ISOLATION VAI RY. SEE ASSE	LVE #5 RE-ANAI	LYZED BY IO	A DUE TO

ASSESSMENT D ASSESSMENT I NASA FMEA #:	38							ì		SA DATA: ASELINE NEW	[]			
SUBSYSTEM: MDAC ID: ITEM: 9, 10		FRCS 838 MANIFO	LD	5	, ox	&	FU	IS	OL	V.	LV	SWITCH	GP	C	CO	NTACTS
LEAD ANALYST	r:															
ASSESSMENT:	CII.															
	TICAL			RE	DUNDA	NC	CY	SCI	(EE	NS				L EM	í	
	FLIGHT HDW/FUNC										С					
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COMPARE []	n /n	1	ι	N]	[N]		[N]	[N]	
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LEAD AN	AL	(SI	:										
ASSESSM	ENT	?:											
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REMARKS:									INA	DEQUATI DEQUATI	js]	
FORWARD CHANGE I	MAI N (NII CIF	CUI	ISOL TRY.	ATION SEE A	VAL' ASSE:	VE #5 SSMEN	RE-A	ANALY FRC	ZED BY S 11001	IOA D	UE 1	ľO

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-840		NASA DATA: BASELINE NEW	[]									
MDAC TD:		5, OX & FU ISOI	VLV SWITCH	CLOSE									
LEAD ANALYST:													
ASSESSMENT:													
CRITICA FLIG		EDUNDANCY SCREI		CIL ITEM									
HDW/F	UNC A	В	С										
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COMPARE [N /N] [N] [N]	[N]	[N]									
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REMARKS: FORWARD MANIFOL CHANGE IN CIRCU	D ISOLATION	VALVE #5 RE-A ASSESSMENT IDs	NALYZED BY IOFRCS 11001X	OA DUE TO -11079X.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-841 03-2F-103	350 -2			[[X]
	FRCS 841 FU TK ULL	AGE PRESS	SENSOR			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICALI FLIGHT	· ·	EDUNDANCY			CIL ITEM	Ī
HDW/FU	IC A	В	С			
NASA [3 /2R IOA [3 /3] [P] [P] [P]	[] *
COMPARE [/N] [и] [N] [N]	£]
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SUBSYSTE MDAC ID:					FR 84 FU	2	UI	LLA	\GE	PR	ES	S	SENS	OR								
LEAD ANA	ALYS	ST	:		D.	HAF	(T)	(A)	1													
ASSESSMI	ENT	:																				
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NASA IOA	[3	/	2R 3]		[P]		[P]	[[P]			[]	*
COMPARE	[/:	N]		[N]		[N]	[N]			[]	
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IOA AGREES WITH NASA FMEA.

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SUBSYSTI MDAC ID: ITEM:			FRO 843 FU	-	UT	PRE	ESS	SE	NSOF	R					
LEAD ANA	ALYS	T:	D.	HART	MA	N									
ASSESSME	ENT:														
		TICA FLIG DW/F			RI A	EDUN	IDAN	CY B	SCF	REENS			CI:		
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NASA IOA		3 /2 3 /3		[P]] [P]	[[P]		[]]	*
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SUBSYSTE MDAC ID:				FRO 844 FU	4	ΟŪ	JΤ	PRES	ss	SEI	NSC	R									
LEAD ANA	LYS	T:		D.	HAR	TN	IAN	Ī													
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	CRITICALITY FLIGHT HDW/FUNC						RE	EDUNE	AN	ICY	so	REE	NS	3					CL CEI	M	
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IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		350 -2		NASA DAT BASELIN]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 845 OX TK ULL	AGE PRE	SS SENS	OR		
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICAL: FLIGHT	r	EDUNDAN			CIL ITEM	1
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NASA [3 /2R IOA [3 /3] [P] [P]	[P] []	[[] *
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SUBSYSTE MDAC ID: ITEM:	M:		FRCS 846 OX TK	ULLA	AGE	PRESS	SENSO	OR.			
LEAD ANA	LYSI	? :	D. HAI	RTMAN	1						
ASSESSME	NT:										
	F	CICAL:	r		EDUN	IDANCY	SCREI		_	CII ITI	
	HI	W/FUI	NC	A		В		(C		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-847	350 - 2		BASELINE NEW	-]
	FRCS 847 OX TK OUT	PRESS SE	NSOR			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICALI FLIGHT HDW/FUN	r	EDUNDANCY B	SCREENS C		CIL	ı
NASA [3 /2R IOA [3 /3] [P] [P] [P]	[] *
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SUBSYSTEM MDAC ID: ITEM:	1:		FRCS 848 OX TK	OUT	PRE	SS SEI	NSOR					
LEAD ANAI	LYST:		D. HA	RTMA	N							
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C	CRITI FI	CALI		R	EDUN	DANCY	SCRE	ENS			CIL	1
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NASA FMEA #:	03-2F-103370	-1	BASELINE [] NEW [X]
MDAC ID:	FRCS 849 FU PRESS LINE	C (NEAR THERMOST	TAT) TEMP SENSOR
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT	,	DANCY SCREENS	CIL ITEM
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LEAD ANAI	LYST:	D. HA	RTMAN					
ASSESSMEN	NT:							
C	CRITICA FLIC	HT		OUNDANCY	SCREEN		CIL	M
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SUBSYSTEM MDAC ID: ITEM:	1 :		FRCS 852 FU FI	LL :	LINE	TEMP	SENS	OR				
LEAD ANA	LYST	:	D. HA	RTM	AN							
ASSESSME	T:											
(ICALI LIGHT			REDUI	NDANCY	SCR	EENS		CIL		
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REMARKS.																-	-	

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SUBSYSTEM MDAC ID:	4:		FRC 854 L F		PRI	ess :	LINE	E B	ACK	JP TI	EMP S	ENSO1	R		
LEAD ANA	LYST	:	D.	HART	'MAN'	1									
ASSESSME	NT:														
•		ICAL: LIGH			RI	EDUN	DANG	CY	SCR	EENS			CIL		
		W/FU			A			В		(С				
NASA IOA		/2R /3]		[P]	[[P]	[[P]		[]	*
COMPARE	[/N]		[N]	[N]	[и]		[]	
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ASSESSMI	ENT DATE: ENT ID: EA #:	FRCS-85	55	370 -	-1		N	IASA DATI BASELINI NEV]
SUBSYSTI MDAC ID: ITEM:		FRCS 855 OX FILI	r F	INE T	TEMP	SENSO	R			
LEAD ANA	LYST:	D. HART	'MAI	1						
ASSESSME	ENT:									
	CRITICAL:	ר		EDUNE		SCRE	ENS		CII	_
	HDW/FU	VC	A		В		С			
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SUBSYSTE MDAC ID:	M:			FR 85 OX		ıL	LI	NE	TEI	мP	s	ENSC	OR								
LEAD ANA	LYS	ST:	:	D.	HAF	(T	(A)	ſ													
ASSESSME	NT:	;																			
	CR		[CAL]		•		RI	EDUN	IDA	NC	Y	SCR	EEN	S				CII	_		
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NASA IOA]	3	/2R /3]]	P]]	P]	[[P]			[]	*	•
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REMARKS:	:																				

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FRCS 857			ERMOSTAT) :	TEMP SENSOR						
D. HARTMA	N									
	EDUNDA	NCY SCRE	EENS	CIL ITEM						
NC A		В	С							
[P]	[P] []	[P] []	[] *						
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(If dif:	ferent	from NA	SA)							
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	FRCS-857 03-2F-103 FRCS 857 OX PRESS D. HARTMA ITY R INC A [P] [N	FRCS-857 03-2F-103370 -1 FRCS 857 OX PRESS LINE (D. HARTMAN LITY REDUNDA T NC A [P]	FRCS-857 03-2F-103370 -1 FRCS 857 OX PRESS LINE (NEAR THE D. HARTMAN LITY REDUNDANCY SCRE TO NC A B [P] [P]	FRCS-857 03-2F-103370 -1 FRCS 857 OX PRESS LINE (NEAR THERMOSTAT) TO THE PROSTAT OF THE PROSTAT						

ASSESSMEN ASSESSMEN NASA FMEA	II TI		1/29 FRCS 03-2	-85	B 033	70	-1					SA DA ASEL:	INE]	
SUBSYSTEM MDAC ID: ITEM:	1:		FRCS 858 OX P		s I	LINE	(NE	AR	THER	MC	ST	AT) '	rem:	P SE	NSOF	ŧ
LEAD ANAI	LYST:	:	D. H	ART	MAN	ī										
ASSESSMEN	1T:															
C	CRITI	CAL:	_		RI	EDUN	DANC	Y S	SCREE	ENS	3			CII		
		V/FUI			A			В			С					
NASA IOA	[3	/2R /3]	[P]	[P]	[P]		[] *	t
COMPARE	[/N]	[N]	[N]]	[N]		ſ]	
RECOMMEN	DATIC	ons:	(1	f d	if	fere	nt f	roı	n NAS	SA))					
	[/]	(]	[]	[]	(A	[DD/I] DELET	re)
* CIL RE	TENT:	ION :	RATIO	NAL	E:	(If	app	li	cable			EQUA EQUA		[]	
REMARKS:																

ASSESSMENT DASSESSMENT IN NASA FMEA #:		-859	-1	NASA DAT BASELIN NI	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 859 OX P	RESS LINE	TEMP BAC	CKUP SENSOR	
LEAD ANALYST	D. H	ARTMAN			
ASSESSMENT:					
F	CALITY LIGHT	REDUN	DANCY SCR	REENS	CIL ITEM
HDV	/FUNC	A	В	С	
NASA [3 IOA [3	/2R] /3]	[P] []	[P] []	[P] []	[] *
COMPARE [/N]	[N]	[N]	[N]	[]
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ſ	/]	[]	[]	[] ([] ADD/DELETE)
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SUBSYST MDAC II ITEM:				FRO 860 OX)	ss	s I	INE	TE	MP	BACKU	ΙP	SE	ensof	R			
LEAD A	NALY	ST	:	D.	HAR	TM	IAN	ſ										
ASSESSI	1ENT	:																
		FI	[CAL] LIGHT	r			RE A	DUND	AN	CY B	SCREE	ENS	s C			CIL ITEN	1	
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ASSESSME ASSESSME NASA FME	ד ידואי	D.	FDCC	_061	3370	-1			ASA DATA BASELINI NEV			
SUBSYSTE MDAC ID:			FRCS 861 OX T		(P-1	TEMP .	SEN	SOR				
LEAD ANA	LYST	:	D. H	ARTM	AN							
ASSESSME	NT:											
		'ICAL 'LIGH'	ITY	I	REDUN	IDANCY	SC	REENS		CII		
			NC	7	A	В		С		111	71.1	
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	[/]	[]	[]	[[ADD/D] ELETI	E)
* CIL RE	TENT	ION 1	RATIO	NALE:	(If	appl	ical					
DEMARKS.									DEQUATE DEQUATE]	
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										-		

ASSESSME ASSESSME NASA FME	8 62 103	33	70 - :	1				_	SA DATA ASELINE NEW	(x]						
SUBSYSTE MDAC ID: ITEM:	M:		FRC 862 OX		TEI	ΜP	-1 T	EMF	, S	ENS	SOR							
LEAD ANA	LYST	:	D.	HAR	TM	AN												
ASSESSME	NT:																	
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDM (FUNC A B C																	
		W/FU				A			В			С						
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COMPARE	ι	/N]		[N]	[N]	[N]		[)		
RECOMMEN	IDATI	ONS:		(If	di	ff	eren	it :	fr	om :	NASA)						
	[/]		[]	(]	[] (2	ΑD	[D/D]] ELI	ETE)	
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TANK TEMPERATURE SENSOR ALSO CONTAINED IN THIS FMEA.

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SUBSYSTEM MDAC ID: ITEM:	:	FRCS 863 FU MANI	F P	PRESS-	-1 P:	RESS	SEN	SOR			
LEAD ANALY	YST:	D. HART	MAN	ſ							
ASSESSMENT	r:										
CI	RITICALI FLIGHT HDW/FUN	•	RE A	DUNDA		SCRE				CIL	
	•				В		C	3			
) ASA] AOI	3 /2R 3 /3] [P]	[P]	[]	?]		[] *
COMPARE [/N] [N]	[N]	[18	1]		[]
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SUBSYST MDAC II ITEM:					FR 86 FU	4	ΙŦ	FF	RES	S - 1	. P	RE	ess s	ΕŅ	isc	R						
LEAD AN	IALYS	ST:	3		D.	HAR	T	IAN	ľ													
ASSESSM	ENT	:																				
	CR			LI HI				RE	DUNI	D A N	ICY	: 5	SCREE	NS					CII			
	1	HDV	1/ F	TUN	IC			A			E	3			С							
NASA IOA] 4	3	/2	2R 3]]	P]	[F	, : :		[[P]			[]	*
COMPARI] 3		/N	1]		[N]	I	[N	1	1	[N]			[]	
RECOMMI	ENDA'	ric	ONS	s:		(If	đ:	if1	fere	nt	fı	01	n NAS	A))							
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SUBSYSTEMDAC ID:	M:		FRCS 865 OX MA	NIF	PRES	s-1 P	RESS	SENS	SOR		
LEAD ANA	LYSI	r:	D. HA	RTMA	N.						
ASSESSME	NT:										
(CICALI FLIGHT		F	REDUN	DANCY	SCR	EENS		CII	
	_	W/FUN	_	P	\	В		(2	111	M.
NASA IOA	[3	3 /2R 3 /3]	[F	?]]	[P]	[]	?]]] *
COMPARE	[/N]	[]	1]	[N]	[]	1]	[]
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	[/]	[]	[]	[[.DD/E] ELETE)
* CIL RES	rent	ION F	RATION	ALE:	(If	appl	icab	F	ADEQUATE ADEQUATE	[]

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SUBSYSTEM MDAC ID:	M:		FRCS 866 OX M		F I	PRES	s-1	PI	RESS	SEN	ISOR					
LEAD ANA	LYST	:	D. H	ART	MAN	1										
ASSESSME	NT:															
		ICAL:			RI	EDUN	DAN	CY	SCR	EENS	5			CI		
		W/FUI			A			В			С					
NASA IOA	[3	/2R /3]]	P]	[[P]	[P]			[]	*
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REMARKS:																

ASSESSMENT DATE ASSESSMENT ID:	-,,			NASA DA' BASELII]
NASA FMEA #:	03-2F-10	3350	-3			x j
SUBSYSTEM: MDAC ID: ITEM:	FRCS 867 FU MANIF	PRES	S-2 PRES	S SENSOR		
LEAD ANALYST:	D. HARTM	AN				
ASSESSMENT:						
CRITICAI FLIGH		REDUN	DANCY SCI	REENS	CII ITI	
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RECOMMENDATIONS:	(If di	ffere	nt from 1	NASA)		
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* CIL RETENTION	RATIONALE:	(If	applicab	ADEQUATE		j
REMARKS: IOA AGREES WITH	NASA FMEA.			INADEQUATE	j]

ASSESSMENT ASSESSMENT NASA FMEA	50 - :	3					SA DA BASELI N	NE]						
SUBSYSTEM MDAC ID: ITEM:	:	8	RCS 68 U MAN	ΊΙ	' F	RESS	-2	PF	RESS S	EN	isc)R				
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ASSESSMEN	T:															
c	RITIC FLI		Y		RF	DUND	AN	CY	SCREE	ENS	5			CIL	Μ	
	HDW/		:		A			В			С					
NASA IOA	[3 /	2R] 3]		[P]	[[P]	[P]		[]	*
COMPARE	[/	n]		[N]	[N	1	[N]		ί]	
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* CIL RET	ENTIC	N R	ATION	AL	E:	(If	ap	pl.	icabl			DEQUA']	
REMARKS:	s WIT	H N	ASA F	ME.	A.											

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-869 NASA FMEA #: 03-2F-1033							350	-3	i						A DATA SELINI NEV		X]		
SUBSYSTE MDAC ID:				86	-	NI:	F :	PRES	ss-	2	ΡI	RESS	SE:	NS	OR					
LEAD ANA	LYS	T:		D.	HA	RT	MA	N												
ASSESSME	NT:																			
			CAL:		7		R	EDUI	NDA	NC'	Y	SCRE	EN	S				IL TE		
			/FUI				A			1	В			С			_	111	r.	
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COMPARE	[/	/N]		[N]		[]	N]	[N]		[]	
RECOMMEN	DAT	IOI	NS:		(If	d:	ifi	fere	ent	fı	ro	m NAS	SA))						
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ASSESSMEN ASSESSMEN NASA FMEA	T ID:	: 1/29/ FRCS- 03-2F	870	350 ·	-3			SA DA'I ASELIN NE		
SUBSYSTEM MDAC ID: ITEM:	[:	FRCS 870 OX MA	NIF E	PRES	S-2 PI	RESS	SENSO	R		
LEAD ANAI	YST:	D. HA	RTMAN	1						
ASSESSMEN	T:									
C	RITICA FLIG		RI	EDUN	DANCY	SCRI	EENS		CII	
	HDW/F		A		В		С			
NASA IOA	[3 /2 [3 /3	R]	[P]]	[P []	[P]]] *]
COMPARE	[/N	1	[N]	[N]	[И]	[]
RECOMMENI	DATIONS	: (11	f dif	fere	nt fr	om NA	ASA)			
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REMARKS:										

ASSESSME NASA FME		FRCS 03-2	8-87		350	-3					ASA DA' BASELI N	NE	[[x]		
SUBSYSTE MDAC ID:	M:		FRCS 871 FU N		F :	PRES	SS-3	PI	RESS	SE	NS	OR				
LEAD ANA	LYS	r:	D. H	IARTI	MAI	N										
ASSESSME	NT:															
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NASA IOA		3 /2R 3 /3		[P]	[P]]	P]	[• :]	*
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	1/29/88 FRCS-872 03-2F-103	350 - 3			ra: NE [] EW [X]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 872 FU MANIF	PRESS-3	PRESS	SENSOR	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICAI FLIGH	IT	EDUNDAN			CIL ITEM
HDW/FU	INC A	•	В	С	
NASA [3 /2F IOA [3 /3	?] [P] [P]	[P] []	[] *
COMPARE [/N] [N] [и ј	[N]	[]
RECOMMENDATIONS:	(If dif	ferent	from N	ASA)	
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REMARKS:					

ASSESSMEN NASA FMEA	T ID:	1/29/88 FRCS-87 03-2F-1	73	350	-3]	NASA DAT BASELIN NE	E [] x]
SUBSYSTEM MDAC ID:		FRCS 873 OX MANI				PRESS	SENS			,
LEAD ANAL	YST:	D. HART	'MAI	N						
ASSESSMEN	T:									
C	RITICAL FLIGH HDW/FU	T	RI A	EDUN	DANCY F	SCR		2	CI:	
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COMPARE	[/N] [N]	[]	1]	[]	1]	ſ]
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* CIL RET	ENTION	RATIONAI	E:	(If	appl	icab	2	ADEQUATE ADEQUATE]

ASSESSMENT ASSESSMENT NASA FMEA	TD.	FRCS-8	74	3 50 –3	3			ASA DATA BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:		FRCS 874 OX MAN	IF I	PRESS-	-3 PF	RESS S	ENS	OR		
LEAD ANALY	ST:	D. HAR	(AMT	1						
ASSESSMENT	:									
CR	ITICAL: FLIGH		R	EDUND?	ANCY	SCREE	NS		CIL	
;	HDW/FU	_	A		В		C			
NASA [IOA [3 /2R 3 /3]	[P]	[P]	[P]]] *]
COMPARE [/N]	[N]	[N	3	[N]	[]
RECOMMENDA	TIONS:	(If	dif	feren	t fr	om NAS	SA)			
[/]	[]	[]	[] (2	DD/D] ELETE)
* CIL RETE	NTION	RATION!	ALE:	(If	app1:	icable	A	DEQUATE	_]
REMARKS: IOA AGREES	WITH	NASA FI	ÆA.							

ASSESSME ASSESSME NASA FME	NT ID:	,,	-875	350	-3			DATA: LINE [NEW [
SUBSYSTE MDAC ID:	M:	FRCS 875 FU MA	ANIF :	PRES	S-4 1	PRESS	SENSOR		
LEAD ANA	LYST:	D. H2	RTMA	N					
ASSESSME	NT:								
	FLI	CALITY CGHT FUNC	R A		DANC		EENS C		IL TEM
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COMPARE	[/	'N]	[N]	[]	1]	[N]	[]
RECOMMEN	DATION	ıs: (If	dif	fere	nt fr	om N	ASA)		
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ASSESSME ASSESSME NASA FME	NT :	ID:	1/29/ FRCS- 03-21	-876	350	-3			SA DAT BASELIN NE			
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 876 FU MA	ANIF	PRES	s-4 P	RESS	SENSO)R			
LEAD ANA	LYS'	T:	D. H	ARTMA	N							
ASSESSME	NT:											
		TICAL FLIGH		R	EDUN	DANCY	SCR	EENS		CII		
		DW/FU	_	A		В		С				
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COMPARE	[/N]	[]	1]	[N]	[N	1	[]	
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REMARKS	:											

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-877 NASA FMEA #: 03-2F-103350 -3							NASA DATA: BASELINE [] NEW [X]								
SUBSYSTI MDAC ID: ITEM:			FRCS 877 OX M		F I	PRES	SS-4	P	RESS	SE	NS(OR			
LEAD ANA	LYSI	r:	р. н	ARTI	MAI	N									
ASSESSME	ENT:														
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NASA IOA		/2R /3]	P]	[P]	[P]]]	*
COMPARE	[/N]	[N]	[N]	[N]	[]	
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* CIL RE REMARKS: IOA AGRE						(If	apı	pli	.cab			EQUATE	-]	

ASSESSME ASSESSME NASA FME	NT :	ID:		FR	CS-8	78		50 -	-3							DAT ELIN NE	ΙE	[}			
SUBSYSTEM MDAC ID:	M:			FR 87 OX	8	IIE	FF	RESS	5-4	P	RI	ESS S	EN	isc	R						
LEAD ANA	LYS	T:		D.	HAF	(T	(A)	ī													
ASSESSME	NT:																				
			ALI GHI				RI	EDUNI	AN	CY		SCREE	:NS	3				CII			
		_	FUN				A			В	3			С							
NASA IOA			′2R ′3			[P]	[F	•]	[P]			[]	*
COMPARE	[/	/N]		[N]	1	N	ī]	[N]			[]	
RECOMMEN	DAT	'IOI	1S:		(If	đ	if	fere	nt	fr	: O1	m NAS	SA))							
	[,	/]		[]	Í	[]	[]		(A	[DD/	DE] LE	TE)
* CIL RE	TEN	TIC	I NC	RAI	ION	AL	E:	(If	aj	pp]	Li	cable				UAT UAT		[]	
REMARKS:																					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-879 05-6KF-2153 -1	NASA DATA: BASELINE [] NEW [X]						
SOPSISIEM:	879	& 3/4/5 SWITCH TALKBACK						
LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
CRITICAL: FLIGHT	r	ENS CIL ITEM						
HDW/FU	NC A B	С						
NASA [3 /3 IOA [3 /1R] [] []] [P] [P]	[]						
COMPARE [/N] [N] [N]	[N] []						
RECOMMENDATIONS:	(If different from NAS	SA)						
[3 /2R] [P] [P]	[P] [] (ADD/DELETE)						
* CIL RETENTION F	RATIONALE: (If applicable	e)						
ADEQUATE [] INADEQUATE []								
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-879A	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 879 OX & FU TK ISOL VLV	1/2 & 3/4/5 SWITCH TALKBACK					
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAL		SCREENS CIL ITEM					
FLIGH HDW/FU	_	С					
NASA [3 /3 IOA [3 /1R] [] [] [] [P]] [] * [] * [] *					
COMPARE [/N] [N] [N]	[и] [и]					
RECOMMENDATIONS:	(If different from	m NASA)					
[3 /2R	[P] [P] [P] [] (ADD/DELETE)					
* CIL RETENTION	RATIONALE: (If applied	cable) ADEQUATE [] INADEQUATE []					
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION							

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-880 05-6KF-2155 -1	1/29/88 NASA DATA: FRCS-880 BASELINE 05-6KF-2155 -1 NEW					
	FRCS 880 MANIFOLD 1, OX						
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAL FLIGH	ITY REDUND	ANCY SCREENS	CIL				
HDW/FU	NC A	В С	ITEM				
NASA [2 /1R IOA [3 /1R] [P]] [P]	[F] [P] [P]	[X] *				
COMPARE [N /] []	[N] []	[и]				
RECOMMENDATIONS:	(If differen	t from NASA)					
[3 /2R] [P]	[P] [P]	[D] (ADD/DELETE)				
* CIL RETENTION I	RATIONALE: (If a	ADEOUAT	E []				
REMARKS:		INADEQUAT	E []				
NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF ACCURATE INDICATION OF VALVE STATUS WITH SWITCH TALKBACK COUPLED WITH THE LOSS OF REDUNDANCY (MDM DISCRETES) MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.							
AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS							

ISSUE REMAINS OPEN.

DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-880A 05-6KF-21			NASA DATA BASELINE NEW	: [
SUBSYSTEM: MDAC ID: ITEM:	FRCS 880 MANIFOLD	1, OX 8	FU ISOL	. VLV SWITCH	TALKBACK
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDAN	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /3 IOA [3 /1R] [] P]	[] [P]	[] [P]	[] *
COMPARE [/N	1 (и]	[и]	[N]	[]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
[3 /2R] [P]	[P]	[P] (A	[] DD/DELETE)
* CIL RETENTION REMARKS:	RATIONALE	: (If a	pplicable	e) ADEQUATE INADEQUATE	[]

THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-881 05-6KF-2155 -1	NASA DATA BASELINE NEW	
MDAC ID:	FRCS 881 MANIFOLD 2, OX	FU ISOL VLV SWITCH	TALKBACK
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH		NCY SCREENS	CIL ITEM
	NC A	в с	ITEM
NASA [2 /1R IOA [3 /1R] [P]	[F] [P] [P] [P]	[X] * []
COMPARE [N /] []	ן ון נא	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[3 /2R] [P]	[P] [P] (A)	[D] DD/DELETE)
* CIL RETENTION	RATIONALE: (If ap	-	
		ADEQUATE INADEQUATE	
INDICATION OF VA	LVE STATUS WITH S	URES. HOWEVER, LOSS WITCH TALKBACK COUPI) MAY LEAD TO FALSEI	OF ACCURATE

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:								
	FRCS 881 MANIFOLD 2							
LEAD ANALYST:	D. HARTMAN	. HARTMAN						
ASSESSMENT:	ASSESSMENT:							
CRITICAL FLIGH	ns	CIL ITEM						
HDW/FU		В	С	112.				
NASA [3 /3 IOA [3 /1R] [] [P] []]]	[] [P]	[] *				
COMPARE [/N] [N] [N]	[N]	[]				
RECOMMENDATIONS:	(If dif	ferent from NAS	A)					
[3 /2R] [P] [P]	[P] (AI	[] DD/DELETE)				
* CIL RETENTION	RATIONALE:	(If applicable	e) ADEQUATE INADEQUATE	[]				
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-882 05-6KF-2155 -1 FRCS	NASA DATA BASELINE NEW					
	882	FU ISOL VLV SWITCH	TALKBACK				
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAL FLIGH	ITY REDUNDANG	CY SCREENS	CIL ITEM				
	NC A	В С					
NASA [2 /1R IOA [3 /1R] [P] [] [P]	F] [P] P] [P]	[X] *				
COMPARE [N /] [] [N] []	[N]				
RECOMMENDATIONS:	(If different	from NASA)					
[3 /2R] [P] [[D] DD/DELETE)				
* CIL RETENTION	RATIONALE: (If app	ADEQUATE	[]				
INADEQUATE [] REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF ACCURATE INDICATION OF VALVE STATUS WITH SWITCH TALKBACK COUPLED WITH THE LOSS OF REDUNDANCY (MDM DISCRETES) MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.							

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-882	A 2155 - 2	NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS		, VLV SWITCH	TALKBACK				
LEAD ANALYST:	D. HARTM	MAN						
ASSESSMENT:								
CRITICAL	CIL ITEM							
FLIGH HDW/FU		A	В	С				
NASA [3 /3 IOA [3 /1F] [p]	[] [P]	[] [P]	[] *			
COMPARE [/N] [N]	[N]	[N]	[]			
RECOMMENDATIONS	: (If d	ifferent	from NA	SA)				
[3 /21	R] [P]	[P]	[P]	[] ADD/DELETE)			
* CIL RETENTION	RATIONAL	Æ: (If a	npplicabl	e) ADEQUATE INADEQUATE				
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT	ΙI):	FRCS.	-22	3 3	55	-1			1		DATA ELINE NEW]	
SUBSYSTEMDAC ID:				FRCS 883 MANII	FOI	ď.	4,	OX &	F	U I	SOL VI	.v sv	VITCH	TAL	KBA	CK
LEAD ANA	LYS	T:	:	D. HA	RI	MΑ	N									
ASSESSME	NT:															
		FI	JGH.	ITY F NC		R:	EDU	NDAN	CY B	SC	REENS C			CIL		
NASA					г	ъ	1	r	_	,	-					
IOA	<u>.</u>	3	/1R	j	ĺ	P]	[P]	[P [P]		[X] *	t
COMPARE	[]	N	/]	[]	נ	N]	[]		[N]	
RECOMMEN	DAT:	10	NS:	(If	d :	ifí	fere	ent :	fro	om 1	NASA)					
	[:	3 ,	/2R]	[P]	[P]	[P]	(AD	[D		'E)
* CIL RET											A INA	DEQU		[]	
NASA FME	A CC)NS	SIDE	RS MUI	LTI	PL	E F	AILU	RE	s.	HOWE	ÆR,	Loss	OF	ACC	URAT

NASA FMEA CONSIDERS MULTIPLE FAILURES. HOWEVER, LOSS OF ACCURATE INDICATION OF VALVE STATUS WITH SWITCH TALKBACK COUPLED WITH THE LOSS OF REDUNDANCY (MDM DISCRETES) MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-8	8 83 A -21	55 -2						SA DATA ASELINI NEV]
SUBSYSTEM: MDAC ID: ITEM:		FRCS 883 MANIFO						L V	ľV	SWITCH	H TAL	KBACK
LEAD ANALYS	ST:	D. HAR	TMA	N								
ASSESSMENT	:											
CR	ITICAL:		R	EDUND	AN	CY	SCRE	ENS	}		CIL	
1	HDW/FU		A			В			С			
NASA [IOA [3 /3 3 /1R]	[[P]	[P]	[[P]	[] *
COMPARE [/N]	[N]	[N]	[N]	[]
RECOMMENDA'	TIONS:	(If	dif	feren	it :	fro	om NA	SA)				
ſ	3 /2R]	[P]	[P]	[P] (2	[ADD/D] ELETE)
* CIL RETE	NTION :	RATIONA	LE:	(If	ap	pli	icabl			EQUATE EQUATE]
REMARKS:	DE MAV	CAUSE	TOS	SOF	AC	CUI	RATE	INI	OIC	ATION (OF TH	E VALVE

THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FME	T	I		FRCS-	38	4								ASA DA BASELI N		[]	
SUBSYSTEM MDAC ID: ITEM:	M:			FRCS 884 MANIFO) DL	D!	5,	ох	&	FU	J IS	SOL	ΛΓ	V SWIT	гсн	TAI	LKB/	ACK
LEAD ANAI	LYS	ST	:															
ASSESSMEN	NT:	:																
C		F	ICAL LIGH	r			EDI	JNDA	NC		SCI	REEN				CII		
	1	HDI	W/FUI	NC		A				В			С					
NASA IOA	[3	/ /2R]]	P]		[[P]	[P]		[]	*
COMPARE	[N	/N]	[N]		[N	3	[N]		[]	
RECOMMENI	DA:	ric	ons:	(If	đ:	if	fei	rent	f	rc	om 1	NASA	.)					
	[/]	[]		[]	[]	(AI	[DD/I	,	ETE)
* CIL RET	rei	TI	ION I	RATIONA	LI	E:	()	[f a	ממ	1 i	cal	ole)						
REMARKS:							`		FE			•		DEQUAT DEQUAT		[]	
FORWARD N CHANGE IN														ZED BY				

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/8 FRCS-8 05-6KF	885	-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 885 CONTRO	OLLER,	REMOT	E POWER		
LEAD ANALYST:	D. HAI	RTMAN				
ASSESSMENT:						
CRITICA		RED	UNDANC	CY SCREEN	is	CIL ITEM
FLIC HDW/1		A		В	С	
NASA [3 /: IOA [2 /:	.R]	[P]]	P]	[P] []	[x] *
COMPARE [N /	1]	[и]	[N]	[и]	[и]
RECOMMENDATION	s: (If	diffe	erent	from NAS	A)	
[2 /	LR]	[P]] [P]	[P] (A	[A] ADD/DELETE)
* CIL RETENTIO	N RATION	IALE:	(If ap) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD						

3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-886	179 -2	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 886 CONTROLLE	ER, REMOTE	POWER	
LEAD ANALYST:	D. HARTMA	N		
ASSESSMENT:				
CRITICALI FLIGHT		REDUNDANCY	SCREENS	CIL
HDW/FUN	ic a	В	С	ITEM
NASA [3 /1R IOA [2 /2] [P	'] [F] [P]	[X] * [X]
COMPARE [N /N] [N] [N	ן א]	[]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)	
[3 /3] [] [[D] DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If appli	.cable) ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONSIDE EFFECT.	RS MULTIPI	LE FAILURE		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-88	7		NASA DATA: BASELINE NEW			
SUBSYSTEM: MDAC ID: ITEM:	FRCS 887 CONTROL	LER, RE	MOTE POWER	ŧ			
LEAD ANALYST:	D. HART	MAN					
ASSESSMENT:							
CRITICAL FLIGH		REDUND	ANCY SCREE	ens	CIL ITEM		
HDW/FU		A	В	С			
NASA [3 /1R IOA [2 /2		P]	[P] []	[P] []	[] * [X]		
COMPARE [N /N] [и ј	[и]	[N]	[и]		
RECOMMENDATIONS:	(If d	lifferen	t from NAS	SA)			
[2 /1R	[]	P]	[P]	[P] (A	[A] DD/DELETE)		
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []						
REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD							

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSMENT ASSESSMENT NASA FMEA	r ID:	1/29/88 FRCS-888 05-6KF-2		2			ASA DAT. BASELIN NE	E []
SUBSYSTEM: MDAC ID: ITEM:	:	FRCS 888 CONTROLL	ER, R	EMOTE	POWE	R			
LEAD ANALY	ST:	D. HARTM	AN						
ASSESSMENT	r:								
CF	RITICALI FLIGHT		REDUN	DANCY	SCRE	ENS		CII	
	HDW/FUN		A	В		С		111	iP1
NASA [IOA [3 /3 3 /3] []	[]	[]]] *]
COMPARE [. /] []	[]	[]	[]
RECOMMENDA	ATIONS:	(If di	ffere	nt fro	om NAS	SA)			
(. /	J []	[]	[.] (2	[ADD/D] ELETE
* CIL RETE	ENTION F	RATIONALE	: (If	appl	icable	A	DEQUATE DEQUATE	-]
REMARKS:									J

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-889	179 -1		NASA DATA: BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	FRCS 889 CONTROLL	ER, REMO	TE POWER					
LEAD ANALYST:	D. HARTM	IAN						
ASSESSMENT:								
CRITICAL		REDUNDAN	CY SCREEN	S	CIL ITEM			
FLIGH HDW/FU		A	В	С				
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[x] *			
COMPARE [N /N] [и] [и][иј	[N]			
RECOMMENDATIONS:	(If di	ifferent	from NASA	r)				
[2 /1F	?] [P] [P] [[P]	[A] DD/DELETE)			
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: LOSE JETS ON MANIFOLD 2. REDUNDANCY PROVIDED BY JETS ON MANIFOLD								

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

4. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-890	179 - 2		NASA DA BASELI N					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 890	RCS							
LEAD ANALYST: D. HARTMAN									
ASSESSMENT:									
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM									
HDW/FU		.	В	С	IIEM				
NASA [3 /1R IOA [2 /2] [F	P] [F]	[P] []	[X] * [X]				
COMPARE [N /N] [N	,] [n j	[и]	[]				
RECOMMENDATIONS:	(If dif	ferent f	rom NA	SA)					
[3 /3] [] []	[]	[D] (ADD/DELETE)				
* CIL RETENTION F	PATIONALE:	(If app	olicabl	e) ADEQUATI INADEQUATI					
NASA FMEA CONSIDE EFFECT.	RS MULTIP	LE FAILU	RES.	THIS FAILU	RE ALONE HAS NO				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-891 05-6KF-2	180 -1	NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 891 CONTROLI	ER, REM	OTE POWER		
LEAD ANALYST:	D. HARTM	IAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1F IOA [2 /2	R] [P]	[P] []	[P] []	[x] *
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS	: (If d	ifferent	from NAS	SA)	
[2 /1]		P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: LOSE JETS ON MA 4. JETS REQUIR	NIFOLD 2. ED TO EXE	REDUN PEL PROP	DANCY PRO' ELLANTS T	VIDED BY JE O MEET CG L	TS ON MANIFOLD IMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' DA' ' ID: #:	FE: 1 F	/29/88 RCS-892 5-6KF-2	: :180	-2				DATA ELINI NEV			
SUBSYST MDAC ID ITEM:	EM:		F: 8:	RCS 92 ONTROLL				WER				,	
LEAD AN	ALY	ST:	D.	. HARTM	AN								
ASSESSM	ENT	:											
	CR	ITIC FLI	ALITY GHT	<i>t</i>	REDU	NDANC	Y SCI	REENS			CI		
]	HDW/	FUNC	•	C		IT:	EM					
NASA IOA]	3 /	3] 3]]]	[]]]]] *]	
COMPARE	[/]	[3	C]	ſ	3		[]	
RECOMMEN	DAT	rion:	s:	(If dia	ffer	ent fr	om N	ASA)					
	.[/]	[]]]	C]	(Al	[DD/[] ELET:	E)
* CIL RE	TEN	TIO	N RAT	IONALE:	(II	f appl	icab	le)					
REMARKS:								A	DEQU DEQU		[]	

ASSESSMEN ASSESSMEN NASA FME	NT	ID		FR	CS-8	93		9.	-1						SA BASE	LIN	ΙE	[x]		
SUBSYSTEMDAC ID:	M:			FR 89 CO	3	LI	LEF	₹, 1	REM	OT:	E	POWE	ER								
LEAD ANA	LYS	T:		D.	HAI	T	(A)	1													
ASSESSME	NT:																				
			CALI				RI	EDU	NDA	NC'	Y	SCRE	EENS	3				CII			
		_	/FUN				A				В			С							
NASA IOA	[3	/1R /2R]		[P P]		[P P]	[[P P]			[]	*	
COMPARE	[/N]		[]		[]	[]			[]		
RECOMMEN	TA D	'IO	NS:		(If	d	if:	fer	ent	: f	r	om NA	ASA)							
	[/]		[]		[]	(]			[DD/I		ETE)
* CIL RE	TEN	ITI	ON I	RAI	'ION	ΑL	E:	(I	fa	pp	1:	icab:	le) I	A NA	DEQI DEQI	JAT: JAT:	E E	[]		
REMARKS:																					

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-894 05-6KF-217	79 -2	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 894 CONTROLLER	R, REMOTE	POWER	
LEAD ANALYST:	D. HARTMAN	T		
ASSESSMENT:				
CRITICALI FLIGHT		DUNDANCY	SCREENS	CIL
HDW/FUN	-	В	С	ITEM
NASA [3 /1R IOA [2 /2] [F] [P]] []	[X] * [X]
COMPARE [N /N] [N] [N] [N]	[]
RECOMMENDATIONS:	(If diff	erent fro	om NASA)	
[3 /3) [] [[D] DD/DELETE)
* CIL RETENTION F	RATIONALE:	(If appli	icable) ADEQUATE INADEQUATE	[]
NASA FMEA CONSIDE	RS MULTIPL	E FAILURE	S. THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	TNE	ID		FR	29/8 CS-8 -6KF	95	5 218	O -	-1							DA' ELI: N	NE]	
SUBSYSTIMDAC ID:				FR 89 CO	5	LI	ÆF	R, 1	REM	TOI	'E	POWE	ER								
LEAD AN	ALYS	ST:		D.	HAR	TT	(A)	ī													
ASSESSM	ENT	:																			
		FI	CAL	ľ			RI A	EDU	NDA	MC	Y B	SCRE	EENS	c				CI IT		1	
			i/FUI											_	_			_			
NASA IOA	[[3 3	/1R /2R]		[P P]		[P P]	[P P]			[]	*
COMPARE	[/N]		[]		[3	[]			[]	
RECOMME	NDA'	ric	ons:		(If	d	if	fer	ent	: f	fro	om NA	ASA))							
	[/]		[]		[]	[]		(A	[DD/	'DI] ELI	ETE)
* CIL R	ETE:	NT:	ION :	RAI	ION	AL	E:	(I	f a	app) 1	icab:				LAU LAU		[]	
DEMARKS	•												1.1	ALT.	o E Q	OAI		L		J	

IOA AGREES WITH NASA FMEA.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	FRCS-	896	NASA DATA: BASELINE [] 180 -2 NEW [X]										
SUBSYSTEM: MDAC ID: ITEM:		FRCS 896 CONTR	OLLE	R, RE	MOTE	POWE	R							
LEAD ANALYS	T:	D. HA	RTMA	N										
ASSESSMENT:														
	TICAL: FLIGH		R	EDUND	ANCY	SCRE	ENS		CII					
	DW/FUI		A		В		C	2	TTE	M				
NASA [3 /3 3 /3]	[]	[]	[]	[] *				
COMPARE [/]	Ε]	[1	[]	[]				
RECOMMENDAT	ions:	(If	dif	feren	t fr	om NA	SA)							
[/]	ĺ]	[]	[[ADD/D] ELETE)				
* CIL RETENT REMARKS: NO DIFFERENCE		RATION	ALE:	(If	appl:	icabl	A	DEQUATE	[]				

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-897 NASA FMEA #: 05-6KF-2181 -1													DAT ELIN NE	E	[]	
SUBSYSTE MDAC ID:			FRC 897 CON		LEF	٤, :	REMO	TE	PO	WER								
LEAD ANA	LYS'	T:	D.	HART	MAN	I												
ASSESSME	NT:																	
		TICAL			RI	DU	NDAI	ICY	sc	REENS	5				CI	L		
		FLIGH DW/FU			A			В			С				11	EM	•	
NASA IOA	[3 /1R 3 /2R]	[P P]		P P]	[P P]			[]	*
COMPARE	[/N]	[]	1	•]	[]			[]	
RECOMMEN	IDAT	ions:	(If d	ifi	fer	ent	fr	om	nasa))							
	[/]	[]	ł]	[]	(ΆΙ		'DE		TE)
* CIL RE		TION	RATI	ONAL	E:	(I	f ap	pl	ica		IA IAN	DEQ DEQ	UATE UATE	2	[]	
IOA AGRE		WITH	NASA	FME	Α.													

ASSESSME ASSESSME NASA FME	NT	I		FRC	9/88 S-898 6KF-21	81 -	-2		1	NASA BASE	DATA LINE NEW	[x]	
SUBSYSTE MDAC ID:	M:			FRC 898 CON		R, I	REMOTE	POV	V ER						
LEAD ANA	LY:	ST	:	D.	HARTMAI	N									
ASSESSME	NT	:													
	CR:		ICAI LIGI	LITY	R	EDU	NDANCY	SCF	REENS				IL CEM	A	
	1		W/FC		A		В		(2				•	
NASA IOA	[[3 2	/3 /2]	[]	[]]]]		[x]	*
COMPARE	[N	/N]	(]	ſ]	[)		[N]	
RECOMMEN	DA'	rI	ONS:	: (If dif	fere	ent fr	om N	NASA)						
	[/]	[]	[]	[]	(A)		/DE		ETE
* CIL RE	TEI	NT:	ION	RATI	ONALE:	(Ii	appl	icak	1	ADEQU ADEQU		[]	
REMARKS:												٠		_	

IOA AGREES WITH NASA FMEA.

ASSESSMEN ASSESSMEN NASA FMEA	\mathbf{T}	ID:		FRO	CS-8	99	18	2 -1	l.					SA DA' ASELI N	NE	[[x		
SUBSYSTEM MDAC ID:	M:			FRO 899 COI	9	LI	ÆR	, RI	EMO'	ΓE	POW	VER						
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	Ī										
ASSESSME	NT:																	
	CRI		CAL				RE	DUN	DAN	CY	SCI	REENS	3			CIL	M	
	H		IGH: /FUI				A			В			С					
NASA IOA	[3	/1R /2R]		[P P]]	P P]	[[P P]		[]	*
COMPARE	[/N	3		[]	()	[]		[]	
RECOMMEN	DA:	ric	ns:		(If	d :	if	fere	nt	fr	om :	nasa))					
	[/]		[]	[)	[]	(A	[DD/D	ELJ	ETE)
* CIL RE	ETE	n T]	ON	RAI	NOI	AL	E:	(If	ar	pl	ica		A	DEQUA'		[]	
REMARKS:	: EES	W	CTH	NAS	SA F	ME	Α.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-90 05-6KF-	0 2182 - 2	2	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 900		EMOTE POW	ER	
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICALI FLIGHT		REDUND	ANCY SCR	EENS	CIL ITEM
HDW/FUN	iC	A	В	С	IIEM
NASA [3 /1R IOA [3 /3] [P]	[P] []	[P] []	[] *
COMPARE [/N] [n j	[N]	[N]	[]
RECOMMENDATIONS:	(If di	fferen	t from N	ASA)	
[3 /3] []	[]	[] (A)	[] DD/DELETE)
* CIL RETENTION R	ATIONALE	: (If a	applicab]		·
REMARKS:				ADEQUATE INADEQUATE	[]
NASA FMEA CONSIDE	RS MULTI	PLE FA	LURES.	THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED (MULTIPLE FAILURES) WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		9 -2	SA DATA: ASELINE NEW	[x]		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 901 CONTROLLER	R, REMOTE	POWER			
LEAD ANALYST:	D. HARTMAN	ī				
ASSESSMENT:						
CRITICAL		CIL ITEM				
FLIGH HDW/FU		В				
NASA [3 /1R IOA [2 /2] [F] [P]	[X]	*
COMPARE [N /N] [N] [N] [N]	[]	
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
[3 /3] [] [] [] (AI	[D]	ETE)
* CIL RETENTION	RATIONALE:	(If appl	Al	DEQUATE DEQUATE	[]	
REMARKS: NASA FMEA CONSIDERFECT.	ERS MULTIP	LE FAILUR	ES. THIS	FAILURE	ALONE	HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-902 05-6KF-2180 -1	NASA DATA BASELINE NEW	
SUBSYSTEM:	FRCS 902 CONTROLLER, REMOTE		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT		SCREENS	CIL ITEM
HDW/FUN	NC A B	С	
NASA [3 /1R IOA [2 /2] [P] [P]] [P]] []	[] * [x]
COMPARE [N /N] [N] [N] [N]	[N]
RECOMMENDATIONS:	(If different fr	om NASA)	
[2 /1R] [P] [P		[A] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If appl.	icable) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS ON MANI 2. JETS REQUIRED	FOLD 4. REDUNDANC TO EXPEL PROPELLA	Y PROVIDED BY JETS	ON MANTFOLD

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS		30 -	NASA DATA: BASELINE [] NEW [X]							
SUBSYSTE MDAC ID: ITEM:			FRCS 903 CONT	ROLLEI	₹, F	REMOTE	POW	ER					
LEAD ANA	LYSI	r:	D. H	ARTMAI	1								
ASSESSME	NT:												
		rical Fligh	ITY T	RI	MUDE	IDANCY	SCR	EENS			CII		
		DW/FU		A		В		C	!				
NASA IOA	[:	3 /3 3 /3]]	[[]	[]	[]		[]	*
COMPARE	[/]	C]	[]	[]		[)	
RECOMMEN	DAT:	ions:	(I	f dif	fere	ent fr	om N	(ASA)					
	[/	1	[]	[]	[]	(A	[DD/1] DELI	ETE)
* CIL RE	TEN'	TION	RATIC	NALE:	(I:	f appl	icab	P	DEQI	JATE JATE	[]	
REMARKS:		CES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	EDGG OOA	179 -1	NASA DATA BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 904 CONTROLLI	ER, REMOTE	POWER									
LEAD ANALYST:	D. HARTM	AN										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C												
HDW/FU												
NASA [3 /1R IOA [2 /2] []	P] [P] [P]] []	[] * [x]								
COMPARE [N /N] [1	и] [и] [N]	[N]								
RECOMMENDATIONS:	(If di	fferent fro	om NASA)									
[2 /1R] []	P] [P		[A] DD/DELETE)								
	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
	SE JETS ON MANIFOLD 4. REDUNDANCY PROVIDED BY JETS ON MANIFOLD											

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT	ID		FRC	9/88 S-905 6KF-2		-1			1	NASA DAT BASELIN NE	E	[[X]	
SUBSYSTE MDAC ID: ITEM:				FRC 905 CON		LER,	RE	MOTE	POWEI	2					
LEAD ANA	LYS	ST:	:	D.	HART	MAN									
ASSESSME	:TN	:													
	CR			YTI		RED	UND	ANCY	SCRE	ENS	}		CII		
	I		LIGH N/FU			A		В			С				
NASA IOA	[2 2	/2 /2]]]		[]	[]		[]	[] []	*
COMPARE	C		/	3	[]	1	[1	[1		[]	
RECOMME	NDA	TI:	ons:	:	(If d	liffe	erer	nt fr	om NA	SA)				
	[/	3	(]	[1	[]	(AI	[DD/1	DEI] LETE)
* CIL R		NT	ON	RAT	IONAI	Œ:	(If	appl	icabl		ADEQUAT NADEQUAT			:]
REMARKS	:														

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FMEA #: 05-6KF-2183 -2 NE							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 906 CONTROLLE							
LEAD ANALYST:	D. HARTMAN	N						
ASSESSMENT:								
CRITICALI FLIGHT	CIL ITEM							
HDW/FUN	IC A	В	С		TIEM			
NASA [3 /2R IOA [3 /3] [P] [F] [P]	[X]	*		
COMPARE [/N] [N] [N] [N]	[N]			
RECOMMENDATIONS:	(If diff	erent fro	om NASA)					
[3 /3] [] [] [[D] D/DELE	TE)		
* CIL RETENTION R	ATIONALE:	(If appli	cable)	•	·	•		
REMARKS:				EQUATE EQUATE	[]			
NASA FMEA CONSIDE EFFECT.	RS MULTIPL	E FAILURE	s. THIS	FAILURE	ALONE	HAS NO		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT I	D:	1/29/ FRCS- 05-6K	907	33 -	1			BASE	DATA: LINE NEW	[X]	
SUBSYSTE MDAC ID:	M:		FRCS 907 CONTR	OLLE	R, R	EMOTE	POW	ER						
LEAD ANA	LYST	:	D. HA	RTMAI	4									
ASSESSME	NT:													
		ICAL LIGH	ITY	RI	EDUN	DANCY	SCR	EENS			CI IT			
	_	W/FU		A		В		(
NASA IOA	[2 [2	/2 /2]	[]	[]	[]		[X X]	*
COMPARE	[/	3	[]	[]	ĺ	3		[3	
RECOMMEN	DATI	ons:	(II	f dif	fere	ent fr	om N	ASA)						
	[/]	[3	[]	[]	(A	[DD/	DE] ELE	ETE)
* CIL RE	TENT	ON	RATIO	NALE:	(If	appl	icab	7	ADEQU ADEQU	JATE JATE	[]	
REMARKS:		CES.												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	SSESSMENT DATE: 1/29/88 NASA DATA SSESSMENT ID: FRCS-908 BASELIN ASA FMEA #: 05-6KF-2183 -2 NET											
SUBSYSTEM: MDAC ID: ITEM:	FRCS 908	R, REMOTE										
LEAD ANALYST:	D. HARTMA	N										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL ITEM												
HDW/FU	NC A	В	С									
NASA [3 /2R IOA [3 /3] [F] [P]] []	[X] * []								
COMPARE [/N] [N] [N] [N]	[N]								
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)									
[3 /3	J [) [[D] (ADD/DELETE)								
* CIL RETENTION I	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
	SA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	ID		FR	1/29/88 NASA DAT. FRCS-909 BASELIN 05-6KF-2260 -1 NE							ASELINE		x]			
SUBSYSTE MDAC ID: ITEM:	M:			FROM PROPERTY OF THE PROPERTY														
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	•										
ASSESSME	NT:	:																
	CR		CAL				RE	DUND	ANC	CY	SCREI	ENS	3			L EM	ſ	
	1		LIGH'				A			В			С					
NASA IOA	[3	/1R /2]]	P]	[[F]	[[P]	[X X]	*
COMPARE	[N	/N]		[N]	[N]	[N	1	[}	
RECOMMEN	IDA'	TI	ons:		(If	đ	ifí	feren	it :	fro	om NA	SA)					
	[2	/1R	.]		[P]	[P]	[P] (2		A /Di		ETE)
* CIL R	ETE	NT	ION	RAI	NOI?	λL	Е:	(If	ap	pl:	icabl			DEQUATE DEQUATE]	
DEMARKS	•											_					•	

LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-910 6KF-22	260 -	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTE MDAC ID:			FRC 910 DIO											
LEAD ANA	LYS	T:	D. 1	HARTMA	N.									
ASSESSME	ENT:													
		TICAL FLIGH		R	EDU	NDANCY	SCI	REENS		CI				
		DW/FU		A		В		(3	ITEM				
NASA IOA	[3 /3 3 /3]	[]	[]]]	[] *			
COMPARE	[/]	[]	[]	[]	[3			
RECOMMEN	DAT	ions:	()	f dif	fere	ent fr	om N	(ASA)						
	[/]	[]	[]	[[(ADD/I] DELETE			
* CIL RE	TEN	TION 1	RATIC	NALE:	(If	appl	icab	A	DEQUATE]			

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	NT ID):	FRO	:S-9	11		NASA DATA: BASELINE [] 9A-1 NEW [X]											
SUBSYSTEM MDAC ID: ITEM:	1:		FRO 911 DIC	L														
LEAD ANA	LYST:	:	D.	HAF	(TS	(A)	1											
ASSESSME	NT:																	
(CRITI					RI	EDUN	DAI	NCY	sc	REEN	IS			CI		g.	
		IGH' V/FUI				A			В			C	:			. 111	•	
NASA IOA	[3 [3	/1R /2R]]	P P]		[F]	[F)]		[X X]	*
COMPARE	[/N]		[]		[]	[•]		[]	
RECOMMEN	DATIC	ons:		(If	d:	if	fere	ent	fr	om	NAS <i>I</i>	A)						
	[/]		[]		[]	(•]	(A			ELI	ETE)
* CIL RE	TENT	ION :	RAT:	IONZ	AL	E:	(If	a j	ppl	ica		P		UATE UATE]	
REMARKS:	ES W	ITH :	NAS	A FI	ME	Α.												

ASSESSME ASSESSME NASA FME	NT II	, ,] K]		
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 912 DIODE									
LEAD ANA	LYST	:	D. HA	RTMA	N							
ASSESSME	NT:											
	CRITI	ICAL: LIGH		R	EDUN	DANCY	SCRE	ENS		CII		
		/FU		A		В		c	ITE	5M		
NASA IOA	[3 [3	/3 /3]]]	[]	[]	[] *	
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	DATIC	ons:	(If	dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	[]	[(ADD/D] ELETE	
* CIL RE	TENTI	ON 1	RATION.	ALE:	(If	appl	icabl	A	DEQUATI	•]	
REMARKS:								TIVE	PPAONI	- L	1	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-913										
	FRCS 913 DIODE										
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICAL: FLIGH		CY SCREENS	CIL ITEM								
HDW/FU	NC A	ВС									
NASA [3 /1R IOA [3 /2R] [P] [] [P]	F] [P] F] [P]	[X] *								
COMPARE [/N] [] [] []	[]								
RECOMMENDATIONS:	(If different	from NASA)									
[2 /1R] [P] [P] [P] (A	[A] DD/DELETE)								
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
REMARKS: LOSE JETS ON MAN JETS REQUIRED TO	REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY MANIFOLD 3 JETS JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.										

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	-914										
SUBSYSTE MDAC ID:			FRCS 914 DIOD											
LEAD ANA	LYS'	T:	D. H	ARTMA	N									
ASSESSME	NT:													
		TICAL		R	EDUN	IDANC	SCR	EENS		CI				
		FLIGH DW/FU	_	A		F	3	(C	IT	EM			
NASA IOA	[:	3 /3 3 /3]	[]	[]	[]	[[] *]			
COMPARE	[/]	[3	[]	[]	[]			
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)						
	(/]	[]	[]	[[ADD/I] DELETE)			
* CIL RE	TEN'	rion :	RATIO	NALE:	(If	appl	icab.	1	ADEQUATE ADEQUATE]			

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	1T	II		FR	29/88 CS-91 -6KF	15		0 -1						SA DATA BASELINE NEW	[
SUBSYSTEM MDAC ID:	1:			FR 91 DI														
LEAD ANA	L¥S	ST	:	D.	HAR!	ΓM	AN	i										
ASSESSMEN	NT:	:																
ASSESSMENT: CRITICALITY REDUNDANCY S FLIGHT HDW/FUNC A B										SCRE	ENS				IL TEM	ſ		
	FLIGHT HDW/FUNC									В			С					
NASA IOA	[3 2	/1R /2]		[[P]	[[F]	[P]	[X X]]	*
COMPARE	[N	/N]		[N]	[N]	[N]	[]	
RECOMMEN	DA!	rI(ons:		(If	di	ff	eren	it	fr	om NA	SA)					
	C	2	/1R]		[P]	[P]	[P] (A		A /DI		ETE)
* CIL RE	TE:	NT:	ION :	RAI	'IONA	Li	€:	(If	ap	pl:	icabl			DEQUATE DEQUATE]	
REMARKS:														_				

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF

4. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

LOSE JETS ON MANIFOLD 2. REDUNDANCY PROVIDED BY JETS ON MANIFOLD

THRUSTERS.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	1/2 FRC 05-	S-9	16	60 -	2			NASA DAT BASELIN NE] K]	
SUBSYSTI MDAC ID: ITEM:				FRO 916 DIO	5									
LEAD ANA	ALY:	ST	:	D.	HAR	TMA	N							
ASSESSMI	ENT:	:												
	CR			ITY		RI	EDUN	DANC	SCR	EENS	3	CII		
	I		LIGH W/FU			A		I	3		С	ITE	SM	
NASA IOA] [3	/3 /3]		[]	[]]]	[] *]	
COMPARE	[/]		[]	[]	[]	[]	
RECOMMEN	IDA'	ri	ons:	(Ίf	dif	fere	nt fi	com N	ASA)				
	[/]		[]	[]	[] ([ADD/D) DELETE	Ξ)
* CIL RE	:			RATI	ONA	LE:	(If	app]	licab		ADEQUATE ADEQUATE	-]	
NO DIFFE	CREI	NC1	ES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/8 FRCS-9 05-6KI	17	9A-1		NASA DATA BASELINI NE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 917 DIODE					
LEAD ANALYST:	D. HA	RTMAN				
ASSESSMENT:						
CRITICAL		RE	DUNDANC	Y SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A		В	С	
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COMPARE [/N]	[] []	[]	[]
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REMARKS: IOA AGREES WITH	NASA F	MEA.				

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SUBSYSTE MDAC ID:			FRC 918 DIO								
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SUBSYSTEM MDAC ID: ITEM:	:		FRO 919 DIO																
LEAD ANAI	YST:		D.	HART	MAI	1													
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ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	, _, _, _,	20	2	1	NASA DATA BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 920 DIODE						
LEAD ANALYST:	D. HART	MAN					
ASSESSMENT:							
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SUBSYSTEM: MDAC ID: ITEM:		FRCS 921 DIODE										
LEAD ANALYS	T:	D. HAR	MAMT	7								
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SUBSYSTE MDAC ID:			FRC 924 DIO	_							
LEAD ANA	LYS	T:	D. 1	HARTMA	N						
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LEAD ANA	LYST:		D. H	ARTI	1AM	1											
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LEAD ANA	LYS	ST:	D. HA	RTMA	N							
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ASSESSMEN ASSESSMEN NASA FMEA	T ID	:	FRO	CS-9	27	, 226	50 - 1						SA DA BASELI 1		[
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LEAD ANAL	YST:		D.	HAF	(T	(A)	1											
ASSESSMEN	T:																	
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LEAD ANAI	YST:	D. HART	MAI	N										
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c	RITICAL:		RI	EDUND	ANC	CY	SCRE	ENS	3			CL CEM	4	
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ASSESSME ASSESSME NASA FME	NT ID:	1/29/8 FRCS-9 05-6KF	29	59 A- 1			ì	IASA DATA BASELINE NEW			
SUBSYSTEMDAC ID:		FRCS 929 DIODE									
LEAD ANA	LYST:	D. HAF	(AMT	1							
ASSESSME	NT:										
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ASSESSME ASSESSME NASA FME	NT I	D:	FRC	9/88 5-930 6KF-22	59 A-	·2			NASA DA' BASELII N		x]	
SUBSYSTE MDAC ID:			FRC: 930 DIO									
LEAD ANA	LYST	:	D. 1	HARTMA	N							
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ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS- 05-6K	931	59 – 1	L			ASA DATA BASELINI NET		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 931 DIODE								
LEAD ANALYST:	D. HA	RTMAI	1						
ASSESSMENT:									
CRITIC FLI		RI	EDUNI	DANCY	SCREE	ENS		CIL	
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COMPARE [/	N]	[]	ξ]	[1	[]
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REMARKS:								_	

ASSESSME ASSESSME NASA FME	NT	I		FRO	9/88 S-932 -6KF-22	59 ·	-2		1	NASA DA BASELI N		x]	
SUBSYSTE MDAC ID:				FRO 932 DIC	}								
LEAD ANA	LY	ST	:	D.	HARTMA	N							
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LEAD ANA	LYS	r:	D.	HARTI	NAN	Ī												
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ASSESSME ASSESSME NASA FME	NT ID:		-934	266 ·	-2			SA DATA ASELINE NEW		x]	
SUBSYSTE MDAC ID:		FRCS 934 DIOD									
LEAD ANA	LYST:	D. H	ARTMA	N							
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SUBSYSTEM MDAC ID: ITEM:	1 :		FRC 935 DIC	5															
LEAD ANA	LYST	:	D.	HAR	TM	(A)	ī												
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ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	9/88 5-938 5KF-22	71 -	-2		N	ASA DAT BASELIM NI	1E [(]	
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LEAD ANA	LYS	T:	D. H	IARTMA	N							
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REMARKS:								INA	DECOUL	- [J	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-939 05-6KF-22	259 A- 1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 939 DIODE				
LEAD ANALYST:	D. HARTMA	AN			
ASSESSMENT:					
CRITICAL: FLIGHT HDW/FUI	r	REDUND <i>I</i>	ANCY SCREE	ns C	CIL ITEM
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COMPARE [/N] []	[]	[]	[]
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* CIL RETENTION	RATIONALE	: (If a	applicable	ADEQUATE	[]

ASSESSME ASSESSME NASA FME	INT	ID:	FRC	9/88 S-940 6KF-22	:59 A -	-2]	NASA DAT BASELIN NE		x]
SUBSYSTE MDAC ID:			FRCS 940 DIO								
LEAD ANA	LYS	T:	D. I	HARTMA	N						
ASSESSME	NT:										
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* CIL RE	TEN	TION 1	RATIO	ONALE:	(If	app]	licab	1	ADEQUATE ADEQUATE]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		59 - 1		NASA DATA BASELINE NEW	
MDAC ID:	FRCS 941 DIODE				
LEAD ANALYST:	D. HARTMAI	N			
ASSESSMENT:					
CRITICAL FLIGH		EDUNDANCY	SCREENS	5	CIL ITEM
HDW/FU		E	3	С	IIEM
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REMARKS: LOSE JETS ON MAN PROVIDED BY JETS PROPELLANTS TO M	ON MANIFO	LD 2. JE			

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

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SUBSYSTE MDAC ID: ITEM:	M:	9	RCS 42 IODE									
LEAD ANA	LYST:	D	. HARTMA	N								
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 943 DIODE				
LEAD ANALYST:	D. HARTN	1AN			
ASSESSMENT:					CIL
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* CIL RETENTION	RATIONAL	LE: (If a	pplicable	e) ADEQUATE INADEQUATE	
REMARKS: LOSE JETS ON MA 2. JETS REQUIR	NIFOLD 4	. REDUND PEL PROPE	ANCY PROV	VIDED BY JE O MEET CG L	TS ON MANIFOLD

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ENT EA EM:	Γ I #:	D:	FRO 05- FRO 944 DIO	CS-944 -6KF-2 CS 1 DDE	260	-2				LINI	E [x]	!
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1				1	A	1	В		С		IT	EM	
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[/]	[]	[]	[]		[]	
DA'I	CIO	ns:	(:	If dif	fere	ent fr	om N	ASA)					
			-	ſ		_		-]	(AI	[]\DC] ŒLF	TE:
			RATIO	ONALE:	(If	appl	icab	A		TE	[]	•
	ENT EM: CR [[DAT	ENT I EA #: EM: : ALYST ENT: CRIT: HD: [3 [3] [TENTI	ENT ID: EA #: EM: : ALYST: ENT: CRITICAL FLIGH HDW/FI [3 /3 [3 /3 [/ DATIONS:	ENT ID: FROM EA #: 05- EM: FROM FROM EM: FROM EM: PA 44 DICTION FROM ENT: CRITICALITY FLIGHT HDW/FUNC [3 /3] [3 /3] [4] TDATIONS: (1) TENTION RATION	EA #: 05-6KF-2 EM: FRCS : 944 DIODE ALYST: D. HARTM ENT: CRITICALITY FLIGHT HDW/FUNC [3 /3] [[3 /3] [[/] [DATIONS: (If different content of the	ENT ID: FRCS-944 EA #: 05-6KF-2260 EM: FRCS 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUITED FLIGHT HDW/FUNC A [3 /3] [] [3 /3] [] [3 /3] [] [/] [] DATIONS: (If different function of the content	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 BASE EA #: 05-6KF-2260 -2 EM: FRCS : 944	ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C [3/3] [] [] [] [] [3/3] [] [] [] [/] [] [] DATIONS: (If different from NASA) [//] [] [] [] TENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE	ENT ID: FRCS-944 BASELINE [EA #: 05-6KF-2260 -2 NEW [EM: FRCS : 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUNDANCY SCREENS CIFLIGHT HDW/FUNC A B C [3/3] [] [] [] [] [] [] [3/3] [] [] [] [] [MATIONS: (If different from NASA) [/] [] [] [] [] CDATIONS: (If different from NASA) [/] [] [] [] [] TENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [ENT ID: FRCS-944 EA #: 05-6KF-2260 -2 EM: FRCS : 944 DIODE ALYST: D. HARTMAN ENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C [3/3] [] [] [] [] [] [] [3/3] [] [] [] [] [] [4] [] [] [] [] [] DATIONS: (If different from NASA) [/] [] [] [] [] TENTION RATIONALE: (If applicable) ADEQUATE []

ASSESSM ASSESSM NASA FM	TENT	ID	:	1/29 FRCS 05-6	5-9	45	′0 – 1	L		ì	NASA DA BASELI N]	
SUBSYST MDAC II ITEM:				FRCS 945 DIO												
LEAD AN	IALY	ST:		D. 1	HAR	TMAN	ī									
ASSESSN	IENT	:														
	CR		CAL IGH	ITY		RE	EDUNI	DANCY	SCREE	ens			CI	L EM	4	
	1			NC		A		В		(C				•	
NAS!	A [2 ,	/2 /2]		[]	[]	[]]	X X]	*
COMPARI	Ξ [/]		[]	[]	[]		[]	
RECOMMI	ENDA'	TIO	ns:	(Ιf	difi	fere	nt fro	om NAS	SA)						
	[/]		[]	[]	[1	(AI		DI		ETE)
* CIL I	RETE	NTI	ON	RATI	ONA	LE:	(If	appl	icable	1	ADEQUAT ADEQUAT		[]	
REMARKS	s:															

ASSESSME ASSESSME NASA FME	TK	II):	FRC		; !270 -	-2		ì		DATA LINE NEW	[,]
SUBSYSTE MDAC ID:				FRC 946 DIO									
LEAD ANA	LYS	T:	:	D.	HARTM	IAN							
ASSESSME	NT:												
	CRI					REDUI	NDANC	scr	EENS			CII	
	H		LIGH V/FU	NC		A	1	3	C	2		ITI	SM
NASA IOA	[3	/3 /3]	[]	[]	[]		[] *
COMPARE	[/]	[]	[]	[]		[]
RECOMMEN	DAT	'IC	ons:	(If di	ffere	ent fi	com N	ASA)				
	[/]	[]	[]	(,]	(A)	[DD/I] DELETE)
* CIL RE		T	CON	RATI	ONALE	: (Ii	f app]	licab	P	ADEQU ADEQU	ATE ATE	[]
NO DIFFE		ICE	ES.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-947 05-6KF-22	214 -1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 947 DRIVER, I	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDAI	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1H IOA [2 /2	R] [P]	[P] []	[P] []	[] * [X]
COMPARE [N /N] [и]	[N]	[N]	[]
RECOMMENDATIONS	: (If di	ifferent	from NAS	SA)	
[2 /1	R] [P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONALI	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS:		DEDIMI	NAMOV DDO	VIDED BY JE	rs on manifoli

LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	ENT ENT EA	" I #:	DATE	:	1/29/ FRCS- 05-61	/88 -94 (F-	3 18 -22	214	-2				NASA DA BASELI	INE	[[X]	
SUBSYSTE MDAC ID:	: M				FRCS 948 DRIVE												
LEAD ANA	LY	ST	:	I). НА	RT	MA	N									
ASSESSME	NT	:															
		F	LIG	TH	Y:		R A		NDAI	NCY E		CREENS	:		CIL TEM		
NASA IOA	[3 2	/1F /2	R]		[P]		F]	[F)]	[X]	*	
COMPARE	[N	/N]		[N]	(N]	[N]	[
RECOMMENI	DAT	'IC	ens:		(If	d:	if	fere	ent	fr	om	NASA)					
			/3					_				1] ADD	D] /DEL	ETE)	
* CIL RET	EN	TI	ON	RA'	rion?	LE	E:	(If	ap	pl:	ica						
REMARKS:												INA	DEQUATE DEQUATE	j]		
NASA FMEA EFFECT.	C	ON	SID	ERS	MUL	ΤI	PI	Æ F	'AIL	URI	Es.	THIS	FAILUR	E A	LONE	HAS	NC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMEI ASSESSMEI NASA FME	NT II):	FRCS	-949	:14 -	-1					SA DAT ASELIN NE					
SUBSYSTEM MDAC ID:	M:		FRCS 949 DRIV	ER, F	IYBRI	Œ										
LEAD ANA	LYST	:	D. H	IARTM?	N											
ASSESSME	NT:															
(ITY	1	REDUI	NDANO	CY	SCF	REENS	;			CII ITE			
		LIGH W/FU		1	A		В			С						
NASA IOA	[3 [2	/1R /2]	[] [?]	[P]	[[P]		[[}	[]	*	
COMPARE	[N	/N]	[1	1]	[N]	[N]		[]		
RECOMMEN	DATI	ons:	(1	f di	ffer	ent i	fro	om 1	NASA)							
	[2	/1R	,]	[]	P]	[P]	[P]			A] DELI	ETE)	
* CIL RE	TENT	ION	RATI	ONALE	: (I:	f app	p1 i	ical			DEQUATI		[]		
REMARKS: LOSE JET	S ON	MAN	IFOL	0 2.	RED	UNDAI	NC:	Z PI	ROVII	ŒI	BY JI	ETS	01	M M	ANIF	OLD

4. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR FAILED OFF THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA BASE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 950 DRIVER, HYBRID		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL: FLIGH		ANCY SCREENS	CIL ITEM
HDW/FU		В С	IIEM
NASA [3 /1R IOA [2 /2] [P]] []	[F] [P]	[X] * [X]
COMPARE [N /N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If differen	t from NASA)	
[3 /3] []	[] []	[D] (ADD/DELETE)
* CIL RETENTION 1	RATIONALE: (If a	applicable) ADEQUA INADEQUA	
REMARKS: NASA FMEA CONSIDI EFFECT.	ERS MULTIPLE FA	ILURES. THIS FAII	LURE ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	NT ID:	FR	29/88 CS-95 -6KF-	51	.4 -1						SA DA ASELI N		[x]	
SUBSYSTEM MDAC ID:	M:	FF 95 DF		, ну	BRID)										
LEAD ANA	LYST:	D.	HART	(AM	1											
ASSESSME	NT:															
4	CRITIC	ALITY GHT	<u>r</u>	RI	EDUNE	ANC	CY	SCRE	ENS	3				L CEM	1	
		FUNC		A			В			С						
NASA IOA	[3 /	'1R] '2R]		[P [P]	[P P]	[P P]		[]	*
COMPARE	[/	'N]		[]	[N]	[]		[N]	
RECOMMEN	DATION	is:	(If	dif:	ferer	nt :	fro	om NA	SA)						
	[/	<i>'</i>]		[]	[]	[]	(A)] DD,	/DI	ETI]	ETE)
* CIL RE	TENTIC	ON RA	riona.	LE:	(If	ap	pl:	icabl		IA IAN	DEQUA DEQUA	TE TE	[]	
REMARKS:																

IOA AGREES WITH NASA FMEA.

ASSESSMEN ASSESSMEN NASA FMEA	T D.	ATE: D:	1/29/ FRCS- 05-61	/88 -95: (F-:	2 22:	14	-2					ASA DATA BASELIN NEV	E				
SUBSYSTEM MDAC ID: ITEM:			FRCS 952 DRIVE														
LEAD ANAL	YST	:	D. H2	\RTI	IAN	N											
ASSESSMEN	T:																
C		ICALI LIGHT	[TY		RI	EDUI	NDAN	CY	SC	REENS	3			L			
		W/FUN			A			В			С		J	TE	M		
NASA IOA	[3 [3	/1R /2R]]	P P]	[F P]]	P P]	[X]	*	
COMPARE	[/N]	[]	[N]	ί]	[N]		
RECOMMEND	ATIO	ons:	(If	d i	Ĺfi	fere	ent i	fro	om 1	NASA)							
	[3	/3]	[]	[]	[D / D		ETE)	
* CIL RET	ENT	ON F	NOITA	ALE	E :	(11	f app) 1 i	cal			DEQUATE DEQUATE	[]		
NASA FMEA EFFECT.	CON	SIDE	ers mu	LTI	PI	E I	FAILU	JRE	ES.	THI	S	FAILURE	A	LOI	NE	HAS	ИО

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME									ASA DAT			,	
ASSESSMEI NASA FME						1			BASELIN NE	W [
SUBSYSTEM MDAC ID: ITEM:	M:		FRCS 953 DRIVE	R, 1	HYBRI	D							
LEAD ANA	LYST	:	D. HA	RTM	AN								
ASSESSME	YT:												
·		ICAL	ITY r	1	REDUN	DANCY	SCRI	EENS			IL FEM	ī	
			NC		A	В		С		-		•	
NASA IOA	[3	/1R /2R]	[]	P] P]	[P]	[P]	[]	*
COMPARE	[/N]	[]	[и]	[]	[N]	
RECOMMENI	DATI	ons:	(If	di:	ffere	nt fr	om NA	ASA)					
	[/]	[]	[3	[] ([ADD,	/DE		ETE)
* CIL RE	CENT:	ION I	RATION	ALE	: (If	appl	icab]	Α.	DEQUATE DEQUATE	[]	
REMARKS:									2 31121			J	

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		D.1	SA DATA: ASELINE [] NEW [X]
	FRCS 954 DRIVER, HYBRID		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	T	DANCY SCREENS	CIL ITEM
HDW/FU	NC A	в с	
NASA [3 /1R IOA [2 /2	[P]] []	[F] [P]	[X] * [X]
COMPARE [N /N] [N]	[N] [N]] []
RECOMMENDATIONS:	(If differer	nt from NASA)	
[3 /3] []	[] [[D] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	ADI	EQUATE [] EQUATE []
REMARKS:	ERS MULTIPLE FA		FAILURE ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

EFFECT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-955	5 2214 - 2		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 955 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE	ens	CIL ITEM
HDW/FU		A	В	С	
NASA [3 /1R IOA [2 /2] [P]	[F] []	[P] []	[X] *
COMPARE [N /N] [и]	[и]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[3 /3] []	[]	[] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable	e) ADEQUATE INADEQUATE	-
REMARKS: NASA FMEA CONSID EFFECT.	ERS MULT	IPLE FAI	LURES. 5	THIS FAILURE	ALONE HAS NO
AT MEETING WITH	SUBSYSTE	M MANAGE	R ON 1/2	0/88, NSTS 2	2206 WAS

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	D I #:	ATE: D:		/88 -95 KF-	6 22	14 -:	1					ASA DA' BASELII NI	NE	-]	
SUBSYSTE MDAC ID: ITEM:		•	1	FRCS 956 DRIVI														
LEAD ANA	LYS	ST	:	D. H2	ART	MA	N											
ASSESSME	NT:	:																
	CR]		ICAL: LIGH	ITY		R	EDUNI	OAN	CY	SCRI	EEN	s			CI		_	
	ŀ		W/FU			A			В			С			IT	EN	[
NASA IOA	[3 2	/1R /2]	[P]	[P]	[P]		[x]	*
COMPARE	[N	/N]	[N]	[N]	[N]		[]	
RECOMMEN	DAT	PI)	ONS:	(If	đ	if	ferer	nt 1	fro	om NA	ASA;)						
	[2	/1R]	[P]	[P]	[P			[D/			TE)
* CIL RE	ren	T	ION I	RATION	I AL I	Ξ:	(If	app	ol i	cabl	·		EQUATE		[]	
LOSE JET	S C	N EQU	MAN] JIREI	FOLD TO E	4. XPI	EL	REDUN PROP	DAN	ICY	PRC	IIVO I O'	DEI MEE	BY JE	TS IM	O IT:	N S.	MA	NIFOLD

ASSESSME ASSESSME NASA FME	NT	II):	FRC		20 -	1			ASA I BASEI	LINE			
SUBSYSTE MDAC ID:	M:			FRC 957 DRI		YBRI	:D							
LEAD ANA	LYS	ST:	:	D.	HARTMA	N								
ASSESSME	NT:	;												
	CR]		ICAI LIGH	ITY	F	EDUN	IDANCY	SCR	EENS			CII		
	ŀ			NC	A		В		C					
NASA IOA	[2 2	/2 /2]]]	[]	[]		[3	[] []	*
COMPARE	[/	3	[]	[]	[]		[]	
RECOMMEN	DA:	ri	ons:	(If dif	fere	ent fr	om N	IASA)					
	[/]	[]	[3	[]	(A	[.DD/I] DELI	ETE)
* CIL RE	TEI	NT:	ION	RATI	ONALE:	(If	f appl	icab	P	DEQUA]	
REMARKS:		NC:	ES.											

ASSESSME ASSESSME NASA FME	NT I	ATE: D:	1/29/ FRCS- 05-6K	958	220	-2			1	NASA BASE		[) x]		
SUBSYSTE MDAC ID:			FRCS 958 DRIVE	R,	нув	RID									
LEAD ANA	LYST	:	D. HA	RTM	AN										
ASSESSME	NT:														
	CRIT:	ICAL:			RED	UNDAN	CY	sc	REENS			CI			
		W/FUI			A		В		•	С		IT	EM		
NASA IOA	[3 [3	/2R /3]	[P]	[F]	[]	P]		[x]	*	
COMPARE	[/N]	[N]	[N	1	[]	ן א		[]	N]		
RECOMMEN	DATI	ons:	(If	di	ffe	rent :	fro	om l	NASA)						
	[3	/3]	[]	[)	[]	(A)		D]	ETE)	
* CIL RE	TENT	ION I	RATION	ALE	: (If ap	pli	ical		ADEQUA ADEQUA		[]		
REMARKS: NASA FME EFFECT.	A COI	NSIDI	ers mu	LTI	PLE	FAIL	URI	ES.	THIS	S FAI	LURE	AL	ONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME					300 9)9 -	1					ASA DA BASEL:	INE			
SUBSYSTE MDAC ID: ITEM:			FRCS 959 FUSE,													
LEAD ANA	LYST	:	D. HA	RTI	(A)	1										
ASSESSME	NT:															
		ICALI LIGHT	LTY D		RE	EDUN	DANC	CY	SCF	REEN	S			CIL	ur	
			1C		A			В			С			TIE	M	
NASA IOA	[3 [3	/2R /3]	[P]	[P]	[[P]		[]	*
COMPARE	[/N]	[N]	[N]	[N]		[]	
RECOMMEN	DATI	ons:	(11	đ	lfi	fere	nt 1	fro	om N	NASA)					
	[2	/1R]	[P]	[P]	Ţ	P]	(AI	[A DD/D		ETE)
* CIL RE	TENT:	ION E	RATION	IALI	€:	(If	app) 1	icab	•		DEQUA']	
LOSE JET																
3. JETS	REQU	UIREI) FOR	TO	E	CLET	PRC	ויונ	بمبابات	MIL S	T	J MEE'.	r Ce	المالد	MT.	ro.

ASSESSME ASSESSME NASA FME	NT	II):	FRCS-	-960	200))8 - 1						ASA DATA BASELINE NEW	[x]
SUBSYSTE MDAC ID: ITEM:				FRCS 960 FUSE,	12	A										
LEAD ANA	LYS	T:	;	D. HA	RTI	(A)	ī									
ASSESSME	NT:															
				ITY		RI	EDUND	ANG	CY	SCI	REENS	3			L	
			LIGHT V/FUI	NC T		A			В			С		17	CEM	1
NASA IOA]	[P]	[P]]	P]]	x] *]
COMPARE	[N	/N]	[N	1	[N]	ſ	N]	[N]
RECOMMEN	DAT	'IC	ons:	(If	đ:	ifí	feren	t i	fro	om 1	NASA))				
	[2	/1R	1	[P]	[P]	[P			A /DE] ELETE)
* CIL RE	TEN	T	ON I	RATION	IALI	Ξ:	(If	apı) 1	ical	•		DEQUATE DEQUATE]]
													BY JETS			MANIFOLD

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSMEN ASSESSMEN NASA FME	NT ID:	1/29/6 FRCS-9 05-6K	961	07 -1				ASA DATA BASELINE NEW		
SUBSYSTEM MDAC ID:	M:	FRCS 961 FUSE,	1 A							
LEAD ANA	LYST:	D. HA	RTMA	N						
ASSESSME	NT:									
	CRITICA		R	EDUND	ANCY	SCRE	ens		CIL	
	FLIG HDW/F		A		В		С			· -
NASA IOA	[3 /1 [3 /2	R] R]	[P]	[P [P]	[P]	[] *]
COMPARE	[/N]	[]	[]	(]	[]
RECOMMEN	DATIONS	: (If	dif	feren	t fr	om NA	SA)			
	[2 /1	R]	[F)	[P]	[P	(A	A] DD/D] ELETE)
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl	A	DEQUATE]

REMARKS: LOSE JETS ON MANIFOLD 1. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 3. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSME ASSESSME NASA FME	ENT D ENT I EA #:	ATE:	1/29/ FRCS- 05-6F	′88 ·96 (F–	2 20	09 -	-1					ASA DATA BASELINE NEW		•
SUBSYSTE MDAC ID:	M:		FRCS 962 FUSE,											
LEAD ANA	LYST	':	D. HA	RT	MAI	N								
ASSESSME	ENT:													
		ICAL	ITY T		RI	EDUN	IDAN	CY	SCI	REENS	S		CIL	
	HD	W/FU	NC		A			В			С			
NASA IOA		/2R /3]	[P]	[P]	[P]	[] *]
COMPARE	[/N]	[N]	[N]	[N	1	[]
RECOMMEN	DATI	ons:	(If	d :	ifi	fere	nt i	fro	om 1	NASA))			
	[2	/1R	1	(P]	[P]	[P		[A DD/D] ELETE)
* CIL RE		ION 1	RATION	ALI	Ε:	(If	app	oli	cak	-		DEQUATE DEQUATE]
REMARKS: LOSE JET 4. JETS	S ON	MAN; UIRE	IFOLD D FOR	2. TO	E)	REDU KPEL	NDAN PRO	ICY OPE	PE	ROVII	EI TC	BY JET MEET C	S ON G LI	MANIFOLD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-963 05-6KF-20	008 -1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 963 FUSE, 1A				
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREEN	S	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1H IOA [2 /2		P] [P] [P]	[x] *
COMPARE [N /N] [и] [и] [[N]	[N]
RECOMMENDATIONS	: (If di	fferent	from NASA	A)	
[2 /1		P] [P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONALE	: (If ap) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS ON MA 4. JETS REQUIR	NIFOLD 2. ED TO EXPI	REDUNDA EL PROPEL	NCY PROV	IDED BY JET MEET CG L	rs on manifold imits.

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	; [;]	DATE:	1/29/ FRCS- 05-61	/88 -96 KF-	4-20	07	-1					IASA DA BASEL]	NE]	
SUBSYSTI MDAC ID: ITEM:	ur.			FRCS 964 FUSE,												•	
LEAD ANA	ALY	ST	':	D. HA	RT	MA	N										
ASSESSME	ENT	:															
	CR		ICAL LIGH	ITY T		R	EDU	NDAN	CY	S	CREEN	S			CIL		
]	HD	W/FU	NC		A			В			C			ITE	M	
NASA IOA	[3	/1R /2R]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/N]	ĺ]	ſ]	ſ]		[]	
RECOMMEN	DAT	ric	ONS:	(If	d:	ifi	fere	ent f	rc	m	NASA))					
	[2	/1R]	[P]	[P]	[P	_		[A D/DE		TE)
* CIL RE	TEN	T	ON F	RATION	ALE	:	(If	app	li	.ca	ble)						
REMARKS:												IAD	EQUATE EQUATE	E	[]	
LOSE JETS	S C RE	N QU	MANI URED	FOLD 2	2. KPE	L	PRO	NDAN PELL	CY AN	P TS	ROVID	ED	BY JE	TS LIM:	ON ITS.	MAI	NIFOLD

ASSESSMEN ASSESSMEN NASA FME	I TV	D:	FRC	9/88 S-965 -6KF-2)9 - 1	L					ASA DA BASELI N	NE]	
SUBSYSTEM MDAC ID:	M:		FRC 965 FUS		A											
LEAD ANA	LYSI	?:	D.	HARTI	(A)	1										
ASSESSME	T:															
(F	TICAL FLIGH OW/FU	T		RE A	EDUNI	OAN	CY B	SCF	REEN	is C			CIL	1	
		•												_	_	
NASA IOA		3 /2R 3 /3]	P]	[Р]		. P]		[] ;	*
COMPARE	[/N)	[N	1	ſ	N]	1	N]		C]	
RECOMMEN	DATI	ons:	((If d	iff	fere	nt :	fro	om 1	NASA	A)					
	[2	2 /1R].	[P]	[P]	1	[P]	(Al	[A DD/DI		re)
* CIL RET	rent	MOIT	RATI	CONAL	Ξ:	(If	ap	pl:	ical		A	DEQUAT DEQUAT		[]	

2. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

LOSE JETS ON MANIFOLD 4. REDUNDANCY PROVIDED BY JETS ON MANIFOLD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 966 FUSE, 1A		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL		CY SCREENS	CIL
FLIGH HDW/FU		В С	ITEM
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[
COMPARE [N /N] [N][и] [и]	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[2 /1R] [P] [P] [P] (AI	[A] DD/DELETE)
* CIL RETENTION	RATIONALE: (If app	- · · · · · · · · · · · · · · · · · · ·	
		ADEQUATE INADEQUATE	[]
		NCY PROVIDED BY JETS LANTS TO MEET CG LIN	S ON MANIFOLD

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSME ASSESSME NASA FME	NT D NT I A #:	ATE: D:	1/29/8 FRCS-9 05-6K	38 967 F-2	7 200)7 - 1						ASA DA BASELI N		[x]		
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 967 FUSE,															
LEAD ANA	LYST	:	D. HAI	RTN	(A)	1												
ASSESSME	NT:																	
		ICALI LIGHT	TY		RE	EDUND.	ANG	CY	SCRE	ENS	3			CI:				
	HD	W/FUN	iC		A			В			С							
NASA IOA	[3 [3	/1R /2R]	[P P]	[P P]	[P P]		[]	*	
COMPARE	[/N]	[]	[]	[]		[]		
RECOMMEN	DATI	ons:	(If	đi	ff	eren	t 1	rc	om NAS	SA))							
	[2	/1R]	(P	J	[P]	[P]	(AD	[/ [D/]			TE)	
* CIL RE	TENT	ION F	RATIONA	LE	:	(If	app	ol i	.cable	≥)		\		_				
										I		DEQUAT DEQUAT		[]		

REMARKS:

LOSE JETS ON MANIFOLD 3. REDUNDANCY PROVIDED BY JETS ON MANIFOLD 1. JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ASSESSME ASSESSME NASA FME	NT	ID:	F	RCS-		.7 -	1				DATA: LINE NEW	[]	
SUBSYSTEM MDAC ID:	M:		F: 9 F		1 A										
LEAD ANA	LYS	T:	D	. HA	RTMAN	1									
ASSESSME	NT:														
	CRI		ALIT	Y	RI	EDUN	DANCY	SCR	EENS			CI IT		ī	
	H		FUNC		A		В		c	:				•	
NASA IOA	[2 /	[2] [2]		[]	[]	[[]		[X X]	*
COMPARE	(/	']		[]	[]	[]		[]	
RECOMMEN	DAI	CION	is:	(If	dif	fere	ent fr	om N	IASA)						
	[/	']		[]	[]	[]	(A		DE		ETE)
* CIL RE				MOIT.	IALE:	(If	appl	icab	7		IATE IATE]	

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:		FI	RCS-9	96		o7 ·	-1							ASA BAS	ELI		[x]	
SUBSYSTIMDAC ID:					96	RCS 59 JSE,	12	A															
LEAD AND	ALY	ST	:		D.	HAI	RTI	IAN	1														
ASSESSMI	ENT	:																					
		F	LI	GHT	[ľ			EDUI	NDA	NC	CY	SCI	REE	NS					CI II	L EN	ſ	
]	HDI	W/	FUI	1C			A				В				С							
NASA IOA]	3 3	/	1R 2R]		[P P]		[P P]		[P P]			[]	*
COMPARE	[/]		[]		[]		(]			[]	
RECOMMEN	NDA!	ric	ЭМ	s:		(If	d:	ifí	fere	ent	: f	r	om 1	NAS	A)								
	[/]		[]		[]		[)		(Al	[DD/	'DE] :Li	ETE)
* CIL RE		n T :	IO	N F	RAT	NOI	LI	Ξ:	(II	f a	pp	ol i	.cak				DEQI			[]	

IOA AGREES WITH NASA FMEA.

ASSESSMEN ASSESSMEN NASA FMEA	II TI	D:	FR	cs-9	70	00	8 -1	L				N		SELINE NEW	[
SUBSYSTEN MDAC ID: ITEM:	1:		FRO 970 FU		1 <i>A</i>	L													
LEAD ANAI	LYST	:	D.	HAR	TM	IAN	ī												
ASSESSMEN	NT:																		
C		ICAL: LIGH'				RE	EDUNI	DANC	Ϋ́	sc	CREEN	S				IL TEM	ſ		
		W/FU				A			В			C	?		•		•		
NASA IOA	[3 [2	/1R /2]		[P]]	P]	[I	•]	[x]	*	
COMPARE	[N	/N	3		[N]	[N]	[ì	1]	[N]		
RECOMMENI	DATI	ons:		(If	di	ff	fere	nt i	fro	om	NASA	۲)							
	[2	/1R]		[P]	[P]	(I	?] (A		A /DI		ETE)	
* CIL RE	TENT	ION :	RAT	ION?	ALI	€:	(If	app	91 :	ica		2		EQUATE EQUATE]		
REMARKS: LOSE JETS 2. JETS	S ON REQ	MAN UIRE	IFO D T	LD 4	1. KPI	I EL	REDUI PRO	NDAI PEL	NC:	Y I	PROVI	DI MI	ED EE'	BY JET F CG LI	'S MI	ON TS	M2	ANIF	OLD

ISSUE IS TIED TO THE IOA HARDWARE ISSUE FOR FAILED OFF THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-971 05-6KF-20	17 - 1			NASA DA BASELI N]
	FRCS 971 FUSE, 1A						
LEAD ANALYST:	D. HARTMA	N					
ASSESSMENT:							
CRITICAL		EDUND	ANCY	SCREE	1 S	CIL ITEM	Į.
FLIGH HDW/FU			В		С		
NASA [2 /2 IOA [2 /2] []	[]	[]	x]] *
COMPARE [/] []	[3	[]	[]
RECOMMENDATIONS:	(If dia	fferer	nt fr	om NAS	A)		
[/] []	[]	[]	[(ADD/DI] ELETE)
* CIL RETENTION REMARKS: NO DIFFERENCES.	RATIONALE	: (If	appl	icable	ADEQUA]

ASSESSMI ASSESSMI NASA FMI	LN E	'I	D:	F	/29/88 RCS-97 5-6KF-	2	.30	-1					ASA DAT BASELIN NE]	
SUBSYSTE MDAC ID:				97	RCS 72 ELAY												
LEAD ANA	LY	ST	:	D.	HART	MA	N										
ASSESSME	NT	:															
		F	ICAI LIGI	ΙT	?	R	EDUI	NDAN	CY	sci	REEN	s			IL CEM	†	
	,	HD	W/Ft	JNC		A			В			С				•	
NASA IOA	[3 2	/1F /2	₹]]]]	P]	[P]]	P]	[x] *]	
COMPARE	[N	/N]	[N]	[N]	C	N]	[N]	
RECOMMEN	DA:	ric	ons:		(If d	if	fere	ent f	ro	om N	NASA))					
	[2	/1R	2]	[P]	[P)	[P			A DE] LETI	∑)
* CIL RET											IN	AD	EQUATE	į]	
LOSE JETS	3 C	N	MAN	IFO	LD 1.	F	EDU	NDAN	CY	PR	OVID	ED	BY JET	s o	N I	INAN	FOL

'n JETS REQUIRED TO EXPEL PROPELLANTS TO MEET CG LIMITS.

ACCECCMENM ID.	1/29/88 FRCS-973 05-6KF-2130 -2	NASA DATA: BASELINE NEW	
MDAC ID:	FRCS 973 RELAY		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT		Y SCREENS	CIL ITEM
HDW/FUN		в с	
NASA [3 /1R IOA [3 /3] [P] [] []	P] [P]] []	[] *
COMPARE [/N] [N] [и] [и]	[]
RECOMMENDATIONS:	(If different f	rom NASA)	
[3 /3] [] [] [] (A)	[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If app	olicable)	
		ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONSIDI EFFECT.	ERS MULTIPLE FAILU	JRES. THIS FAILURE	ALONE HAS NO
AT MEETING WITH S	SUBSYSTEM MANAGER	ON 1/20/88, NSTS 2	2206 WAS

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-974	-1	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 974 RELAY			
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL: FLIGH		NDANCY SCREI	ENS	CIL
HDW/FU		В	С	ITEM
NASA [3 /1R IOA [2 /2] [P]] []	[P] []	[P] []	[] * [x]
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differ	ent from NAS	5 A)	
[2 /1R] [P]	[P]		[A] DD/DELETE)
* CIL RETENTION I	RATIONALE: (I	f applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: LOSE JETS OF MAND 4. JETS REQUIRED	FOLD 2. RED TO EXPEL PR	UNDANCY PROV OPELLANTS TO	JIDED BY JET	S ON MANIFOLD

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	FRCS-97			NASA DATA BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 975 RELAY												
LEAD ANALYST:	D. HART	MAN											
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
CRITIC FLI		REDUND	ANCY SCRE	ENS	CIL ITEM								
HDW/		A	В	С									
NASA [3 /	lR] [3] [R] [P] [P] [P]											
COMPARE [/	4] [[и]	[и]	[N]	[]								
RECOMMENDATION	S: (If o	differen	t from NA	ASA)									
[3 /	3]	[]	[]	[] (A)	[] .DD/DELETE)								
* CIL RETENTIO	N RATIONA	LE: (If	applicabl	.e) ADEQUATE INADEQUATE	[]								
REMARKS: NASA FMEA CONS EFFECT.	IDERS MUL	TIPLE FA	ILURES.	THIS FAILURE	ALONE HAS NO								
AT MEETING WIT	H SUBSYST	EM MANAG	ER ON 1/2	20/88, NSTS 2	2206 WAS								

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA BASE	DATA: LINE [] NEW [X]										
	FRCS 976 RELAY, LATCHING												
LEAD ANALYST:	D. HARTMAN												
ASSESSMENT:													
CRITICAL: FLIGH	CIL												
HDW/FUI		в с	ITEM										
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[] * [x]										
COMPARE [N /N] [N][N] [N]	[N]										
RECOMMENDATIONS:	(If different	from NASA)											
[2 /1R] [P] [P] [P]	[A] (ADD/DELETE)										
* CIL RETENTION I	RATIONALE: (If ap	plicable) ADEQUA INADEQUA											
LOSE JETS ON MAN	FOLD 4. REDUNDA TO EXPEL PROPEL												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-977	NASA DATA: BASELINE NEW											
SUBSYSTEM: MDAC ID: ITEM:	FRCS 977 RELAY, LATCHING												
LEAD ANALYST:	D. HARTMAN												
ASSESSMENT:													
CRITICAL FLIGH	 -	CY SCREENS	CIL ITEM										
	FLIGHT HDW/FUNC A B C A [3 /1R] [P] [P] A [3 /3] [] []												
NASA [3 /1R IOA [3 /3] [P] [] [[] *											
COMPARE [/N] [N][и] [и]	[]										
RECOMMENDATIONS:	(If different	from NASA)											
[3 /3] [] [] [] (A)	[] DD/DELETE)										
* CIL RETENTION	RATIONALE: (If app	plicable) ADEQUATE INADEQUATE	[]										
REMARKS: NASA FMEA CONSID EFFECT.	ERS MULTIPLE FAIL	URES. THIS FAILURE	ALONE HAS NO										

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI NASA FMI	ENT	II):	FRC	S-978	95 -	-1		Ŋ	BASEL		[x]	
SUBSYSTEMDAC ID				FRC: 978 RES:	S ISTOR,	5.1	LK 1/4	W						
LEAD AN	ALY	ST	3	D. 1	HARTMA	N								
ASSESSM	ENT	:												
	CR		[CAI	LITY	R	EDUN	IDANCY	SCR	EENS			CI	L EM	
	1		V/FU		A		В		C	:		11	LPI	
NASA IOA	[[3 3	/3 /3]] []	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDA'	TIC	ons:	(If dif	fere	ent fr	om N	(ASA)					
	[/]	[]	[]	C]	(AI	[\DC/	DEL	ETE
* CIL R	:			RATI	ONALE:	(Ii	f appl	icab	P	ADEQUA ADEQUA		[]	
NO DIFF	EKE.	NÇI	ES.											

ASSESSME ASSESSME NASA FME	NT NT A #	DA II	TE:	1/2 FRC 05-	9/88 S-9 6KF	8 79 - 209	95 -:	l			ASA D BASEL		[
SUBSYSTE MDAC ID: ITEM:	EM:			FRC 979	:S			K 1/4W							
LEAD ANA	LYS	ST	:	D.	HAR	TMA	N								
ASSESSME	ENT	:													
	CR					R	EDUN	DANCY	SCI	REENS			CIL		
	1		LIGH W/FU	INC		A		В		С					
NASA IOA	[3	/3 /3]]]	[[]]]		[] *	
COMPARE						[1		[]			
RECOMME	NDA	TI	ONS	:	(If	dif	fere	nt fr	om	NASA)					
	[/]		[]	[]	[]	(A] DELET	Έ)
* CIL R	ETE	TN	ION	RAT	IONA	ALE:	(If	appl	ica	ble) P INP	DEQU DEQU	ATE ATE	[]	
REMARKS A SHORT IOA REC FMEA.		RC	SS IDS	A RL REMO	R TY	YPE OF	RESI THE	ISTOR "SHOR	IS T"	NOT A FAILUI	CRED RE MO	IBLE DE F	FA: ROM	LURI THIS	E .
ISSUE R	RESC FAI	LLU	ZED JRE	AT M MODE	EET:	ING BE	WIT	H SUBS	YSI	TEM MAI	NAGER	ON	1/2	0/88	

ASSESSMI ASSESSMI NASA FMI	ent	I	D:	FRO	9/88 S-980 6KF-20	93	-1			NASA DA BASELI N		x]	
SUBSYSTI MDAC ID: ITEM:				FRO 980 RES	_	5.	1K 1/4	W					
LEAD ANA	LY	ST	:	D.	HARTMA	N							
ASSESSME	ENT	:											
	CR:		ICAI LIGH	LITY	R	EDU	NDANCY	SCI	REENS	5	CI	L EM	
	1	HDV	/FU	INC	A		В			С	11	LM	
NASA IOA]	3	/3 /3]	[]	<u>[</u>]	[]	[]	*
COMPARE	[/]	[]	Į.]	[]	[]	
RECOMMEN	DAI	ric	ns:	(If dif	fere	ent fr	om N	IASA)				
		/]	[]	[]	[]	[(ADD/)] DELE	ETE	
* CIL RE REMARKS: NO DIFFE				RATI(ONALE:	(11	f appl	icab	-	ADEQUATI ADEQUATI]	
TO DIFFE.	ren	CE	.										

ASSESSM ASSESSM NASA FM	ENT ENT EA	D. I: #:	ATE:	FRC 05-	9/88 S-981 6KF-20	093 -	-1		1		DATA ELINE NEW] x]	
SUBSYST MDAC ID ITEM:	EM:			FRC 981	:s									
LEAD AN	ALY	ST	:	D.	HARTM	AN								
ASSESSM	ENT	:												
CRITICALITY REDUNDANCY SCREENS FLIGHT												CII		
	I				1	A	F	3	(C		ITI	7M	
NASA IOA	[3	/3 /3]]]	[]	[]		[] ,	k
COMPARE	[/]	[]	ι]	[]		[]	
RECOMME	NDA	ric	ONS:	: (If di	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(A)	[DD/I] DELET	ſE)
* CIL RI		VT:	ION	RATI	ONALE:	(If	appl	icab	1		ATE ATE	_]	
REMARKS: A SHORT IOA RECO	ACF													

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSME ASSESSME NASA FME	ENT	II) :	FRO	29/88 CS-982 -6KF-209	98 -	1			ASA I BASEI		[] K]	
SUBSYSTE MDAC ID:				FRO 982 RES		1.8	K 1/4V	1						
LEAD ANA	ALYS	5 T	:	D.	HARTMAI	N								
ASSESSMI	ENT	:												
	CR			ITY	R	EDUN	IDANCY	SCR	EENS			CII		
	1	_	LIGH W/FU		A		В		C	!		111	31-1	
NASA IOA	[3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDA'	ΓI	ons:		(If dif	fere	ent fr	om N	IASA)					
	[/]	E]	[]	[)	(A		DELE	TE)
* CIL R		NT	ION	RAT:	IONALE:	(II	f appl	icab	A	DEQU.]	
NO DIFF		NC	ES.											

ASSESSM ASSESSM NASA FM						8 -	1				DATA: LINE NEW]
SUBSYST MDAC II ITEM:				FRC 983 RES		1.8	K 1/4W						
LEAD AN	IALY	ST	:	D.	HARTMAN								
ASSESSI	1ENT	:											
	CR		ICAL		RE	DUN	DANCY	SCI	REENS			CIL	
			LIGH W/FU		A		В		C	2			
NAS	A [A [3	3 /3] [] [] [] 3 /3] [] []]]		[
COMPAR	E (•	/]	[]	[]	ĺ]		[]
RECOMM	END!	TI	ONS:	:	(If dif	fere	ent fr	mc	nasa)				
			/		ľ]	(A	[DD/I] DELETE)
* CIL	RET	ENT	TION	RAT	ionale:	(I	f appl	ica			UATE UATE]
REMARK A SHOF IOA RE FMEA.		CR(OSS A	A RI REMO	R TYPE VAL OF	RES THE	ISTOR "SHOR	IS T"	NOT A	CRE	DIBLE ODE F	FA ROM	ILURE. THIS
ISSUE (SHOR	RES FA	OL	VED URE	AT M	E TO BE	WIT REM	H SUBS	YSI	rem ma	NAGE	R ON	1/2	0/88

ASSESSM ASSESSM NASA FM	ENT	'I	D:	FRCS 05-6)/88 5-984 5KF-2(098 -	-1		:	NASA BASE	LINE] X]
SUBSYST MDAC ID ITEM:				FRCS 984 RESI		. 2.:	2K 1/2	W					•
LEAD AN	ALY	ST	:	D. H	ARTMA	N							
ASSESSMI	ENT	:											
	CR		CAI LIGH	ITY T	R	EDU	NDANCY	SCI	REENS			CI	
				NC	A		В		C	2		IT:	EM
NASA IOA	[3 3	/3 /3]	[]	[]	[]		[] *]
COMPARE	[/]	[J	C]	ĺ]		[]
RECOMMEN	IDA'I	ric	NS:	(I	f dif	fere	ent fr	om N	ASA)				
		/]	[]	[]	ſ]		[DD/I] DELETE)	
* CIL RE	TEN	TI	ON :	RATIO	NALE:	(If	appl	icab					
REMARKS:	REN	ICE	s.							DEQUA DEQUA		[]

ASSESSMEN ASSESSMEN NASA FME	NT I		1/29/ FRCS- 05-61	-985	98 -	1		N	IASA I BASEI		[-		
SUBSYSTEMDAC ID:	M:		FRCS 985 RESIS	STOR,	2.2	K 1/2	W							
LEAD ANA	LYST	:	D. H	ARTM	AN .									
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
	CRIT	ICAL LIGH		I	REDUN	DANCY	SCR	EENS			CIL			
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NASA IOA	[3	/3 /3] .	[]	[[]	[[]		[]	*	
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* CIL RE	TENT	NOI	RATIO	NALE	: (If	app	licab		ADEQU ADEQU		[]		
A SHORT	INADEQUATE [] REMARKS: A SHORT ACROSS A RLR TYPE RESISTOR IS NOT A CREDIBLE FAILURE. IOA RECOMMENDS REMOVAL OF THE "SHORT" FAILURE MODE FROM THIS													

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME SUBSYSTE MDAC ID: ITEM: LEAD ANA ASSESSME	I) #: 5T	D:	FR 05 FR 98 RE	CS- 6-6K CS 6 SIS	986 F-20	1.8		4 W		NASA DA' BASELII N		x]		
	ICAL LIGH			R	EDUN	DANC	SCR	EENS		_	IL				
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* CIL RETENTION RATI					IONZ	ALE:	(If	appl	icab	, i	ADEQUATE ADEQUATE]	

NO DIFFERENCES.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-987 NASA FMEA #: 05-6KF-2097 -1 EDGG NASA DATA: BASELINE [] NEW [X]														
SUBSYSTE MDAC ID:				FRC 987 RES		, 1.8	K 1/41	N						
LEAD ANA	LYS	ST	:	D.	HARTM	AN								
ASSESSME	ENT:	:												
	CR		ICAI LIGH		:	REDUN	DANCY	SCI	REENS			CIL		
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REMARKS A SHORT IOA REC FMEA.	AC	RO: EN:	SS 1 DS 1	A RLI REMO	R TYPE VAL OF	RESI THE	STOR "SHOR	IS I	NOT A FAILUR	CRED E MO	IBLE DE F	FA] ROM	LUI TH	RE. IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-988	L	NASA DATA BASELINE NEW	[]
	FRCS 988 RESISTOR, 1.2F	C 2W		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
FLIGHT				CIL ITEM
HDW/FUN	IC A	B	С	
NASA [3 /1R IOA [3 /2R] [P]] [P]	[F] [F]	[P] [P]	[X] * [X]
COMPARE [/N] []	[]	[]	[]
RECOMMENDATIONS:	(If differen	t from NAS	SA)	
[/] []	[]		[] DD/DELETE;
* CIL RETENTION F REMARKS: IOA AGREES WITH N		applicable	ADEQUATE	[]

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS)/88 5-989 5KF-209	94 -	2				LINE NEW	[
SUBSYSTE MDAC ID:			FRCS 989 RESI	S STOR,	1.2	K 2W							
LEAD ANA	LYST	:	D. H	IARTMAI	1								
ASSESSME	NT:												
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SUBSYST MDAC ID ITEM:					STOR,	5.1	LK 1/4	w							
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SUBSYSTE MDAC ID:			FRCS 991 RESIS	STOR,	5.1	K 1/4	IW						
LEAD ANA	LYST	:	D. H2	ARTMA	AN .								
ASSESSME	ENT:												
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ASSESSME ASSESSME NASA FME	ENT	I	D:	1/29/ FRCS- 05-61	-992	97 -	1			NASA DATA BASELINI NEV		x]
SUBSYSTE MDAC ID:				FRCS 992 RESIS	STOR,	2.2	K 1/2	W				
LEAD ANA	LY	ST	:	D. H2	RTMA	N						
ASSESSME	NT	:										
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	CRITICALITY REDUNDANCY SCI FLIGHT HDW/FUNC A B									С	ITI	EM
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LEAD ANA	LYS	ST:	:	D. I	IARTMA	N								
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1	CR1		ICAI LIGH		R	EDUN	IDANCY	SCF	REENS			CII	_	
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LEAD ANA	LYS	ST:	1	D.	HARTM	AN								
ASSESSME	NT:	:												
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LEAD ANA	ALYS	T:	:	D. 1	HARTMA	N						
ASSESSMI	ENT:	:										
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SUBSYSTEMDAC ID:				FRC 996 RES		5.	1K 1/4	W						
LEAD ANA	ALYS	ST:		D.	HARTMA	N								
ASSESSME	ENT	:												
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ISSUE R	ESO	LV	ÆD.	AT MI	EETING	WITI	H SUBS	YST	em man	AGER	ON	1/20)/88	

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS	-998	98 -	·1		1	NASA DATA BASELINI NEV		x]
SUBSYSTE MDAC ID:			FRCS 998 RESI	STOR,	2.2	K 1/:	2 W				
LEAD ANA	LYS	r:	D. H	ARTMA	N						
ASSESSME	NT:										
		rical.		R	EDUN	DANC	SCR	EENS		CI	
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SUBSYSTE MDAC ID:	: M			FRC 999	S							-	-	
LEAD ANA	LY	ST	:	D.	HARTMA	N.								
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		94 -1		SA DATA: SASELINE NEW	•]
	FRCS 1000 RESISTOR,	1.2K 2W				
LEAD ANALYST:	D. HARTMAI	Ŋ				
ASSESSMENT:						
CRITICAL		EDUNDANCY	SCREENS		CIL	ſ
FLIGH HDW/FU		В	С			_
NASA [3 /1R IOA [3 /2R] [P] [F] [F] [P] [P]	[X] *
COMPARE [/N] [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
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* CIL RETENTION	RATIONALE:	(If appl	A)	DEQUATE DEQUATE	[]
REMARKS: IOA AGREES WITH	NASA FMEA.					

ASSESSME ASSESSME NASA FME	NT	II):	FRC	9/88 S-1001 6KF-20	2				DATA LINE NEW	[]		
SUBSYSTE MDAC ID: ITEM:				FRC 100 RES		1.2	K 2W							
LEAD ANA	LYS	ST	}	D.	HARTMA	N								
ASSESSME	NT:	:												
	CR1		CAI LIGH	LITY	R	EDUN	IDANCY	SCR	EENS			CII		
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COMPARE	[/]	[]	[)	[]		[]	
RECOMMEN	DA!	ΓI¢	ONS:	: ((If dif	fere	ent fi	com N	(ASA)					
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SUBSYSTI MDAC ID: ITEM:			FRC 100 RES		5.1	LK 1/4	W				
LEAD ANA	ALYS	ST:	D. 1	HARTMA	N						
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	CRI	TICAL FLIGH		R	EDUN	IDANCY	SCI	REENS		C)	
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ASSESSME ASSESSME NASA FME	NT	ID):		1003		1		ŀ	IASA BASE		[(]	
SUBSYSTE MDAC ID: ITEM:	M:			FRCS 1003 RESIS	TOR,	5.1	K 1/41	Ň						
LEAD ANA	LYS	T:		D. HA	RTMA	M								
ASSESSME	NT:													
			CAL	ITY	F	EDUN	DANCY	SCR	REENS			CII		
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1/29/88 FRCS-1004 05-6KF-20	98 -1			LINE	[
FRCS 1004 RESISTOR,	1.8K 1/4	w				
D. HARTMA	N					
	EDUNDANCY	SCREE	ns		CIL	
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ASSESSMEN ASSESSMEN NASA FME	NT I	D:	FRCS	-1005	; 198 –	1			ASA D BASEL		[
SUBSYSTEMDAC ID:	M:		FRCS 1005 RESI	STOR,	1.8	K 1/4	W						
LEAD ANA	LYST	':	D. H	ARTMA	M								
ASSESSME	NT:												
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ASSESSME ASSESSME NASA FME	ENT I	D:	FRCS		-1		N	BASELII N		x]		
SUBSYSTE MDAC ID:			FRCS 1006 RESI		1.8	K 1/41	W					
LEAD ANA	LYSI	:	D. I	HARTMA	N							
ASSESSME	ENT:											
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ASSESSME	NT:												
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SUBSYSTEM MDAC ID:	M:		FRCS 1008 RESIS	ror,	2.2K	1/21	W						
LEAD ANA	LYST	:	D. HAI	RTMAI	N								
ASSESSME	NT:												
(CRIT:	ICAL: LIGH:		RI	EDUND	ANCY	SCREI	ens			CI		
	HDV	/FUI	NC	A		В		С					
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REMARKS:								_11161	Kout	_	ι	j	

ASSESSME ASSESSME NASA FME	NT NT A #	DA ID	TE:	1/2 FRC 05-	9/88 S-10 6KF-	09 2097	7 -1					SA DA ASELI 1	INE	[[X]	
SUBSYSTE MDAC ID:	M:			FRC 100	S 9		2.2K		ī							
LEAD ANA	LYS	T:		D.	HART	MAN										
ASSESSMI	ENT:	;														
	CRI					RE	DUNDA	NCA	SC	REEN	S			CIL		
FLIGHT HDW/FUNC A B C																
NASA IOA	[3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	ι		/]	I	[1	[]	[]		[]	
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* CIL R	ETE	NT	ION	RAT	IONA	LE:	(If	appl	ica		D.	DEQU <i>l</i>]	
REMARKS A SHORT IOA REC FMEA.		RC IEN	SS IDS	A RL REMO	R TY VAL	PE I	RESIS THE "	TOR SHOR	IS T"	NOT FAI	A (CREDI E MOI	IBLE DE F	FAI ROM	LUI TH:	RE. IS
ISSUE I	RESC FA]	LL(/ED JRE	AT M MODE	EETI TO	NG BE	WITH REMOV	SUBS (ED) .	SYS!	TEM 1	MAN.	AGER	ON	1/20	/8	8

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FDC	2-1016	0 095	-1				ATA: INE [NEW [
SUBSYSTE MDAC ID:			FRCS	5		1K 1/				•	,
LEAD ANA	LYS	r:	D. H	IARTMA	M						
ASSESSME	NT:										
		TICAI FLIGH	LITY	R	EDUI	NDANC	SCF	REENS		CI	
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NASA IOA	[3	3 /3]	[[]	[]]]	[] *]
COMPARE	[/]	[]	[]	[3	[]
RECOMMEN	DATI	ons:	(I	f dif	fere	ent fr	om N	(ASA)			
	[/]	[]	[]	[]] DELETE)
* CIL RET			RATIO	NALE:	(If	appl	icab	A	DEQUAT DEQUAT]

ASSESSM ASSESSM NASA FM	ENT	I	D:	FRO	S-1	011		-1			ì	NASA BASE	LINE]	
SUBSYST MDAC ID ITEM:				FRO 101 RES		OR,	5.1	LK 1	/4W							
LEAD AN	ALY	ST	:	D.	HAR'	IMAI	N									
ASSESSM	ENT	:														
	CR		ICAL LIGH			RI	EDUN	IDAN	CY S	CREE	NS			CIL		
	1		W/FU			A			В		C	2		III.	r1	
NASA IOA	[3	/3 /3]		[]]]		[]		[[]	*
COMPARE	[/]		[]	[]		[]		[]	
RECOMME	NDA.	rio	ons:	(If o	difi	fere	ent	from	n NAS	A)					
	[/]		[)	[]		[]	(AI	[DD/D:		ETE)
* CIL RI		NT:	ION :	RATI	ONA:	LE:	(If	ap	plic	able	P	DEQUA		[]	
REMARKS: A SHORT IOA RECO	ACI															

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	/88 -1012 KF-209	93 -1	-		ì	IASA I BASE]		[
SUBSYSTE MDAC ID:			FRCS 1012 RESI		5.11	(1/4	w						
LEAD ANA	LYS	T:	D. H	ARTMAI	N								
ASSESSME	NT:												
		TICAL		R	EDUNI	DANCY	SCR	EENS			CII		
		FLIGH DW/FU		A		F	3	(C		111	,F1	
NASA IOA	[3 /3 3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDAT	ions:	(1	f dif	fere	nt fi	com N	ASA)					
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* CIL RI		TION	RATIC	NALE:	(If	app:	licab		ADEQU.		[]	

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS		93 -	1		N	IASA I BASEI		[]	
SUBSYSTE MDAC ID: ITEM:			FRCS 1013 RESI		5.1	K 1/4	W						
LEAD ANA	LYS'	T:	D. I	HARTMA	N								
ASSESSME	ENT:												
		TICAI FLIGH		F	REDUN	DANCY	SCR	EENS			CIL		
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NASA IOA	[3 /3 3 /3]]]	[[]] []		[[] ;	k
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REMARKS: A SHORT IOA RECO	ACR	OSS I	A RLR REMOV	TYPE AL OF	RESI THE	STOR "SHO	IS N RT" F	OT A	CRED RE MO	IBLE DE F	FAI ROM	LUR THI	E. S

ASSESSME ASSESSME NASA FME	NT	ID:		1014		·1]	NASA DATA BASELINI NEV		x]
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1014 RESIS	TOR,	2.2	eK 1/2	2 W				
LEAD ANA	LYS	T:	D. HA	RTMA	N						
ASSESSME	NT:										
		TICAL		R	EDUN	DANC	Y SCR	EENS		CII	-
		FLIGH DW/FU		A		1	3	(2	ITI	E M
NASA IOA	[:	3 /3 3 /3]	[]	[]	[]	[] *
COMPARE	[/)	[]	[]	C]	(1
RECOMMEN	DAT:	IONS:	(If	dif	fere	nt fi	com N	ASA)			
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* CIL RE	ren:	rion 1	RATION	ALE:	(If	app]	licab	P	DEQUATE	[]

ASSESSME ASSESSME NASA FME	NT NT A	DA II	ATE:	1/29 FRC: 05-	9/88 S-1015 6KF-20	98 -	1				DATA: LINE NEW	_]
SUBSYSTE MDAC ID:				FRC 101 RES		2.2	K 1/2	ñ					
LEAD ANA	LYS	ST:	:	D. 3	HARTMA	N							
ASSESSME	ENT	:											
	CR				R	EDUN	DANCY	SC	REENS			CIL	="
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NASA IOA	[3	/3 /3]	[[.]	[]	[]		[] *
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RECOMMEN	NDA'	TI	ONS	: (If dif	fere	ent fr	om	NASA)				
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REMARKS A SHORT IOA REC FMEA.	7.0	RO EN	SS I	A RLF REMOV	R TYPE VAL OF	RES:	ISTOR "SHOR	IS T"	NOT A FAILUF	CRE	DIBLE ODE F	FA: ROM	LURE. THIS
ISSUE R	ESO	LV	ED	AT ME	EETING	WIT	H SUBS	rsy	TEM MAI	IAGE:	R ON	1/2	0/88

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT I NT I A #:	DATE:	1/29/ FRCS- 05-6K	88 101 (F-2)	6 094 -	-1			ASA DATA BASELINE NEW]
SUBSYSTE MDAC ID:			FRCS 1016 RESIS	TOR	, 1.2	K 2W					
LEAD ANA	LYSI	?:	D. HA	RTM/	AN						
ASSESSME	NT:										
	F	CICALI LIGHT	r		REDUN	DANCY E		EENS C		CIL	
				_	_						
NASA IOA	[3	/1R /2R]	[I	?]]]]	[P [P]	X]] *
COMPARE	[/N]	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om N	ASA)			
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* CIL RE	TENT	ION F	RATION	ALE:	(If	appl	icab	AL	EQUATE	[]

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME							94 - 2	2			NASA BASE	DATA LINE NEW	[x]	
SUBSYSTE MDAC ID: ITEM:				FF 10	RCS)17		1.21									
LEAD ANA	LY	ST	:	D.	HAI	RTMA	N									
ASSESSME	NT	:														
	CR:			LITY	?	R	EDUNI	DANCY	SCRE	ENS			C]		_	
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COMPARE	[/]		[]	[3	[]		(]	
RECOMMEN	DA'	ΓI	ONS	:	(If	dif	fere	nt fr	om NA	SA)						
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* CIL RE	TEI	NT.	ION	RAT	'IONZ	ALE:	(If	appl	icabl		ADEQU. ADEQU.		[]	
REMARKS:															,	

ASSESSME ASSESSME NASA FME	NT :	ID:	FRCS	/88 -1018 KF-209		1			BASEI		[]
SUBSYSTE MDAC ID: ITEM:			FRCS 1018 RESI		1.8	K 1/4V	j					
LEAD ANA	LYS'	T:	D. H	IARTMAI	1							
ASSESSME	NT:											
		TICAL		RI	EDUN	DANCY	SCR	EENS			CII	
		FLIGH DW/FU		A		В		C	:		IIE	1 1. 1
NASA IOA	[3 /3 3 /3]	[]	[]	[]		[] *]
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* CIL RE		TION	RATIO	NALE:	(If	appl	icab	7	ADEQUA ADEQUA		[]
REMARKS:		CES.										

ASSESSMEN ASSESSMEN NASA FME	I TN	D:	FRCS	-1019	98 -	1			ASA DAT. BASELIN NE		
SUBSYSTEMDAC ID:			FRCS 1019 RESI		1.8	K 1/4V	V				
LEAD ANA	LYSI	r:	D. H	ARTMA	N						
ASSESSME	NT:										
(rical Fligh	ITY	F	EDUN	DANCY	sc	REENS		CIL	
	_		NC	A	L	В		С			
NASA IOA	[3	3 /3 3 /3]	[]	[[]	[]	[[] *
COMPARE	ſ	/	1	[]	[]	ι]	[1
RECOMMEN	DAT:	ions:	(1	f di	fere	nt fr	om	NASA)			
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* CIL RE	TEN'	TION	RATIO	NALE:	(If	appl	ica	A	DEQUATE	: [j
REMARKS: A SHORT IOA RECO FMEA.	ACR(OSS # NDS F	A RLR REMOV <i>I</i>	TYPE AL OF	RESI THE	STOR "SHOR	IS T"	NOT A	DEQUATE CREDIBI E MODE	E FAI	LURE.

ASSESSME ASSESSME NASA FME	NT	ID:	FRCS	-1020		1		1	NASA BASE		[x]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1020 RESI		1.8	K 1/4	W						
LEAD ANA	LYS	T:	D. H	ARTMA	N								
ASSESSME	NT:												
,	1	TICAL FLIGH	T	R:		DANCY B	SCR	EENS			CI IT		
		DW/FU				_			-				
NASA IOA	[:	3 /3 3 /3]	[]	((]	[]		[] *	1
COMPARE	[/]	ĺ]	[]	[]		[3	
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)					
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* CIL RE	TEN'	rion 1	RATIO	NALE:	(If	appl	icab	P	DEQU.		[]	

ASSESSME ASSESSME NASA FME	NT I		FRCS	/88 -1021 KF-20	97 -:	1			ASA I BASEI]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1021 RESI	STOR,	1.8	K 1/4	W						
LEAD ANA	LYST	:	D. H	ARTMA	N								
ASSESSME	NT:												
		ICAL		P	EDUN	DANCY	SCR	REENS			CIL		
		LIGH W/FU	IT INC	A		12	3	c	!				
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDAT]	CONS:	: (1	f di	ffere	nt fr	om 1	NASA)					
	ι	/	1	[]	ĵ]	[]	(A	[DD/I		ETE)
* CIL RI	ETEN!	rion	RATIO	NALE	: (If	app	Lical	E	ADEQU ADEQU]	
REMARKS A SHORT IOA RECO FMEA.	A CD	oss i	A RLR REMOV <i>I</i>	TYPE AL OF	RES] THE	(STOR SHO	IS I	NOT A FAILUI	CRED) IBLE) DE F	FA: ROM	LLUI TH	RE. IS

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	FRCS-	88 1022 F-20	! 197 - :	1			NASA DA BASELI N) X)	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1022 RESIS									
LEAD ANALYS	T:	D. HA	RTMA	N							
ASSESSMENT:											
	TICAL: FLIGHT	ITY T	R	EDUNI	DANCY	SCRE	ENS		CI	L EM	
H	DW/FUI	NC	A		В		(С	11	EM	
NASA [:	3 /3 3 /3]	[]	[]	[]	[]	*
COMPARE [/]	[]	[]	[]	ſ]	
RECOMMENDAT	IONS:	(If	dif	ferer	nt fr	om NA	SA)				
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* CIL RETENT REMARKS: NO DIFFERENCE		RATION	ALE:	(If	app1:	icabl	7	ADEQUAT:]	

ASSESSMI ASSESSMI NASA FMI	ENT	II	D:	FRC	S-102	23 2097 -	-1		N	BASE		[]	
SUBSYSTEMDAC ID				FRC 102 RES	3	2.2	2K 1/:	2 W						
LEAD AN	ALY	ST	:	D. 3	HARTN	IAN								
ASSESSM	ENT	:												
	CR		ICAL LIGH			REDUI	NDANC	Y SCF	REENS			CII		
	1			NC		A	:	В	c	2			12.2	
NASA IOA	[3	/3 /3]]]	[]	[]		[]	*
COMPARE	ι		/]	C]	[]	[]		[]	
RECOMME	NDA	TI	ons:	(If d	iffer	ent f	rom N	NASA)					
	[/]	[]	[]	[3	(A)	[DD/I) ELi	ETE)
* CIL R	ETE	NT	ION	RATI	ONALI	E: (I	f app	licak	7	ADEQU ADEQU		•]	
REMARKS A SHORT IOA REC FMEA.	AC	RO EN	SS A DS R	RLR EMOV	TYP	E RES	ISTOR "SHO	IS 1 RT" I	OT A	CRED RE MO	IBLE DE F	FA] ROM	LUI TH:	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT I	ID:	FRCS	/88 -1024 KF-20		1			NASA DAT BASELIN NE	E [x]	
SUBSYSTE MDAC ID:			FRCS 1024 RESI	STOR,	5.1	K 1/4	W					
LEAD ANA	LYST	r:	D. H	ARTMA	N							
ASSESSME	NT:											
		PICAL		R	EDUN	DANCY	SCRE	ENS		CI		
		FLIGH DW/FU		A		В			С	TT	EM	
NASA IOA	[3	3 /3]	[]	[]	[]	[]	*
COMPARE	[/]	[]	[]	[1	[)	
RECOMMEN	DATI	cons:	(I:	f dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	[[ADD/] DELF	ETE
* CIL RE	TENT	rion	RATIO	NALE:	(If	appl	icabl		ADEQUATE ADEQUATE	-]	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	I TA	D:	FRCS	/88 -1025 KF-20		1				DATA: LINE NEW	[_	
SUBSYSTE MDAC ID:			FRCS 1025 RESI	STOR,	5.1	K 1/4	W						
LEAD ANA	ALYS:	r:	D. H	ARTMA	N								
ASSESSMI	ENT:												
		TICAI FLIGH	LITY	F	REDUN	DANCY	SCI	REENS			CIL		
	-	DW/FU		2	1	E	3	C					
NASA IOA	[3 /3 3 /3]	[]	[[]	[[]		[] ;	k
COMPARE	[/]	[]	[]	[]		ſ)	
RECOMME	NDAT	IONS	: (1	f di	ffere	nt fi	com 1	NASA)					
	[/	3	[1	[3	[]	(A	[DD/I	ELE'	TE)
* CIL R	ETEN	TION	RATIO	NALE	: (If	app	lica	F	ADEQU ADEQU	JATE JATE	[]	
REMARKS A SHORT IOA REC FMEA.	3 OT	ROSS INDS	A RLR REMOVA	TYPE AL OF	RESI THE	(STOR SHO	IS RT"	NOT A FAILUI	CREI	DIBLE DDE F	FA:	LUR THI	E. S

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

REPORT DATE 2/26/88 C-989

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-1026 6KF-20		-1			NASA DA BASELI N	NE [x]	
SUBSYSTIMDAC ID:			FRC: 102 RES:		2.2	2K 1/2	2 W					
LEAD AND	ALYS	T:	D. 1	HARTMA	N							
ASSESSMI	ENT:											
		TICAI FLIGH		R	EDUN	NDANCY	SCR	REENS	3	CI:		
	H	DW/FU	NC	A		F	3		С		11 1	
NASA IOA	[:	3 /3 3 /3]	[]]]]]	[]	*
COMPARE	[/]	[]	[)	[]	[)	
RECOMMEN	DAT:	ions:	(1	f dif	fere	nt fr	om N	ASA)				
	[/]	C]	[]	[]	[(ADD/I] DELE	TE)
* CIL RE REMARKS: NO DIFFE			RATIC	NALE:	(If	appl	icab		ADEQUATI ADEQUATI]	
	-/111/	، باند										

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ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-1	.027	98 -1				ASA DATA BASELINI NEV		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1027 RESIST	or,	2.2K	1/2	N				
LEAD ANALYS	ST:	D. HAR	AMT	1						
ASSESSMENT	:									
CR	ITICAL:		RE	EDUNDA	ANCY	SCREE	ens		CIL ITE	
1	HDW/FUI		A		В		C	:		••
NASA [IOA [3 /3 3 /3]	[]]	[]	[]	[[] *]
COMPARE [/]	[]	C]	[]	[]
RECOMMENDA!	TIONS:	(If	diff	ferent	fre	om NAS	SA)			
[/]	[] .	[]	[] (2	[ADD/D] ELETE)
* CIL RETE	NTION 1	RATIONA	LE:	(If a	appl	icable	A	DEQUATE	-]
REMARKS: A SHORT ACI										

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSME ASSESSME NASA FME	NT ID:	FRCS- 05-61	-1028		1			ASA DATA BASELINE NEW		_
SUBSYSTEMDAC ID:	M:	FRCS 1028 RESIS	STOR,	1.2	K 2W					
LEAD ANA	LYST:	D. H2	ARTMA	N						
ASSESSME	NT:									
ı	CRITIC FLI		R) A		D ANC Y B		EENS C		CIL	
NASA IOA	[3 /	1R] 2R]	[P]	[F]	[P]	[X	·
COMPARE	[/	и]	[]	[]	[1	[]
RECOMMEN	DATION	S: (I	f dif	fere	nt fr	om N2	ASA)			
	[/	1 .	[]	[]	[] (A	[DD/D] ELETE)
* CIL RE	TENTIO	N RATIO	NALE:	(If	appl	icab]	A	DEQUATE DEQUATE	[]
REMARKS:										

IOA AGREES WITH NASA FMEA.

ASSESSM ASSESSM NASA FM	ENT	ID:	FRC	S-1029	9	-2			nasa Basi	ELIN:) X]	
SUBSYSTI MDAC ID: ITEM:			FRC 102 RES	_	1.	2K 2W							
LEAD ANA	ALYS'	T:	D.	HARTMA	N								
ASSESSME	ENT:												
		ricai FLIGH	LITY	R	EDU	NDANC:	SCI	REENS			CI		
	HI	DW/FU	INC	A		1	3	(2		IT	EM	
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	ſ]	[]		[]	
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* CIL RE	PENT	ION	RATIC	NALE:	(If	appl	icab						
DEMARKS									DEQUA DEQUA		[]	
REMARKS: NO DIFFE	RENC	ES.							~~		L	1	

ASSESSME ASSESSME NASA FME	NT ID	TE:	FRC	9/88 S-1030 6KF-209	6 - 1				ASA DA'I BASELIN NI]	
SUBSYSTE MDAC ID:			FRC 103 RES		5.1K	(1/4W	,						
LEAD ANA	LYST:	:	D.	HARTMAN									
ASSESSME	ENT:												
	CRITI			RE	DUNI	DANCY	SCR	EENS			CIL ITEN	1	
		LIGH W/FU		A		В		С					
NASA IOA	[3 [3	/3 /3]	[]] []	[[]		[[] *	t
COMPARE	ſ	/]	[]	[]	[]		[]	
RECOMME	NDATI	ONS:	:	(If dif	fere	nt fr	om N	IASA)					
	[/]	[1	[]	[]	(AD	[D/D	ELE'	TE)
* CIL R	ETENT	ON	RAT	'IONALE:	(If	appl	icak		ADEQUA'		[]	
REMARKS NO DIFF		CES.											

ASSESSMI ASSESSMI NASA FMI	F.N'	די יד	'D •	FRC	5-103	1 096 -	-1			NASA DA BASELI N		x]	
SUBSYSTI MDAC ID: ITEM:		:		FRC: 103: RES:	_	, 5.1	LK 1/4	1W					
LEAD AND	AL:	YST	:	D. 1	HARTM	AN .							
ASSESSMI	ENT	r:											
	CI		ICAI LIGH	LITY	I	REDUN	IDANC	SCF	REENS		CII ITI		
		HD	W/FU	INC	2	A	F	3	(2			
NASA IOA	į	[3 [3	/3 /3]	[]	[]]	[]	[[] *	t
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* CIL RE	TE	ENT	ION	RATIO	NALE:	(If	appl	icab	-	DEQUATI	e r	1	
REMARKS:										DEQUATI		ว่	
A SHORT IOA RECO	AC MM	ROS	SS A DS R	RLR EMOVA	TYPE L OF	RESI THE	STOR "SHOR	IS N	OT A AILUF	CREDIBI RE MODE	LE FAI FROM	LURE	:

REPORT DATE 2/26/88

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

(SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	II):	FRC	:S-1	032	8 -	1				DATA: ELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM:				FRC 103 RES	2	OR,	1.8	K 1/	4W						
LEAD ANA	LYS	ST	:	D.	HAR	TMAN	Ī								
ASSESSME	NT:	:													
	CR					RE	DUN	DANC	y so	CREEN	S		CII		
	1	_	LIGH W/FU	NC		A			В		С				
NASA IOA	[3	/3 /3]		[]	[[]]]		[]	*
COMPARE	[/]		[)	[]	[1		[]	
RECOMMEN	IDA'	TI	ons:	:	(If	difi	fere	ent f	rom	NASA)				
	[/]		[]	[]	[]	(A	[DD/1	D EL I	ETE)
* CIL RI		NT	ION	RAT	IONA	ALE:	(II	f app	olic		ADEC	UATE ETAU	[]	
REMARKS NO DIFF		NC	ES.												

ASSESSME ASSESSME NASA FME	NT	ID	TE:	FRCS	/88 -1033 KF-20	98 - :	1		_	ASA D BASEI		-	_	
SUBSYSTE MDAC ID: ITEM:				FRCS 1033 RESI		1.8	K 1/4	W						
LEAD ANA	LYS	T:		D. H	ARTMA	N								
ASSESSME	ENT:													
	CRI		CAI	LITY	F	EDUN	DANCY	SCR	EENS			CIL		
	H		I/FU		P	\	E	3	C	!				
NASA IOA	[3	/3 /3]	[[]	[]	[]		[]	*
COMPARE	[/	1	C)	ι]	[]		[]	
RECOMME	NDAT	ric	ONS	: (1	[f di	ffere	nt fi	com N	IASA)					
	[/)	[]	[1	[]	(A)	[DD/I		ETE)
* CIL R	ETEI	NT:	ION	RATIO	ONALE	: (If	app:	licab	4	ADEQU ADEQU		[]	
REMARKS A SHORT IOA REC FMEA.	3.01	RO: EN	ss i	A RLR REMOV	TYPE AL OF	RESI THE	STOR SHO	IS 1 RT" 1	A TON	CRED	IBLE	FAI ROM	LU TH	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI NASA FMI	ENT	ID:	FRCS-	103	4 11	.1 -1	L					ASA D BASEL		[x]	
SUBSYSTE MDAC ID:			FRCS 1034 RESIS	TOR	,	1.2K	C 2W	7									
LEAD ANA	LYS	r:	D. HA	RTM	AN												
ASSESSME	ENT:																
		rical: Flight			RE	DUND	ANC	Y	SCRE	EN.	S			CI		Л	
	HI	DW/FUI	1C	•	A			В			С				Lik	1	
NASA IOA	[3	3 /2R 3 /2R]	[]	P P]]	[F F]	[P P]		[X X]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATI	cons:	(If	di:	ff	eren	t f	ro	om NA	SA)						
	[/]	[]	[]	[]	(AI	[)D/:	DE] :LE	TE)
* CIL RE	TENT	NOI?	RATION	ALE:	:	(If	app	1 i	cabl			EQUAT		[]	
REMARKS: NO DIFFE	RENC	CES.										-2011		L		J	

ASSESSMENT ASSESSMENT NASA FMEA	r II		1/29/8 FRCS-1 NONE						ASA DA BASELI N	NE	[]	
SUBSYSTEM: MDAC ID: ITEM:	•		FRCS 1035 RESIST	ror,	1.2K	2W							
LEAD ANALY	YST	:	D. HAI	RTMAN	1								
ASSESSMEN'	r:												
CI		ICAL:		RI	EDUNDA	ANCY	SCREE	:NS			CIL	[
			NC	A		В		С					
NASA IOA	[[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEND	ATI	ons:	(If	dif	feren	t fro	om NAS	SA)					
	[3	/3	1	[]	[]	[]	(AI	[DD/DE		TE)
* CIL RET	ENT:	ION 1	RATION	ALE:	(If	app1:	icable	ΑI	DEQUA:		[]	
REMARKS: RLR42 TYP: WHICH CAN NOTE: OP: FMEA.	SH	ORT.		RECO	MEND	S ITS	S INCI	USIC	NI NC	ro 1	A FME	ΞA.	

ISSUE RESOLVED AT MEETING. SHORT FAILURE MODE FOR THIS RESISTOR TO BE CREATED.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	FI	RCS-	10		94	-1							ASA BASE:	LII		[]	
SUBSYSTI MDAC ID: ITEM:				10	RCS 036 ESIS'	ro:	R,	1.	. 2K	21	N											
LEAD AND	ALYS	ST	:	D.	. HA	RT	MAI	N														
ASSESSMI	ENT	:																				
		F	ICAL: LIGH: W/FUI	r	ľ		RI A		JNDA	ANG	CY B	sc	REE	NS	c				C:	[L [EN	1	
NASA						r	P	1		ſ		1		г	P	1			г	x	1	*
IOA	į	3	/1R /2R	j		ĺ	P	j		į	F	j		[P	j			ĺ	X	j	
COMPARE	[/N]		[]		[]		[]			[]	
RECOMMEN	1DA'	ri	ons:		(If	d :	if:	fer	cent	= :	fro	om	NAS.	A)								
	[/]		[]		[]		[]		(AI	[/ac	/DE] ELI	ETE
* CIL RI		NT:	ION 1	RAT	NOI	AL	Ε:	(1	[fa	pp	91 i	ica				EQU EQU			[]	

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NΤ	II):	FRCS	-1037	94 -	-2				DATA LINE NEW			
SUBSYSTEMDAC ID:	M:			FRCS 1037 RESI		1.2	2K 2W							
LEAD ANA	LYS	T:	}	D. H	ARTMAI	N								
ASSESSME	NT:	;												
	CRI		CAL LIGH	YTI	R	EDUN	IDANC	Y SCR	EENS			CII	_	
	F		_		A			В	C	2				
NASA IOA	[3	/3 /3]	[[]	[[]	[]		[[]	*
COMPARE	[/]	[]	E)	[]		[]	
RECOMMEN	DAT	ric	ons:	(1	f dif	fere	ent f	rom N	IASA)					
	[/]	[]	[1	[]	(A	[DD/I] DELE	ETE)
* CIL RE		NT:	ION	RATIO	NALE:	(I:	f app	olicak	7	ADEQU ADEQU	JATE JATE	[]	
NO DIFFE	RE	NC)	ES.											

ASSESSME ASSESSME NASA FME	INT :	ID:	FRC	9/88 S-1038 6KF-20	96 -	-1			NASA DAT BASELII NI] x]	
SUBSYSTE MDAC ID:			FRC 103 RES		5.1	1K 1/4	W					
LEAD ANA	LYS	r:	D.	HARTMA	N							
ASSESSME	NT:											
		PICAI FLIGH		R	EDUI	NDANCY	SCF	REENS	5	CII		
		DW/FU		A		В			С	ITI	SM	
NASA IOA	[:	3 /3]	[]	[[]]]	[]	*
COMPARE	[/]	£]	[]	[]	[]	
RECOMMEN	DAT:	ions:	(If dif	fere	ent fr	om N	(ASA				
	(/]	[]	ſ	3	[[ADD/I) DELE	TE
* CIL RE			RATI(ONALE:	(If	f appl	icab	•	ADEQUATE ADEQUATE	•]	

ASSESSME ASSESSME NASA FME	TK	II	D:	FR	CS-1	L039		1			NASA 1		[-	
SUBSYSTE MDAC ID:				FR 10 RE	39	ror,	5.1	K 1/4	.W						
LEAD ANA	LYS	ST	:	D.	HAI	RTMA	N								
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS															
	CR					R	EDUN	DANCY	sc	CREENS	5		CIL		
FLIGHT HDW/FUNC A B C														••	
	HDW/FUNC A B C NASA [3 /3] [] [] [] IOA [3 /3] [] []												[]	*
COMPARE	ſ		/]		[]	Ĺ]	(]		(]	
RECOMMEN	DA!	rI(ons:		(If	dif	fere	nt fr	om	NASA)				
	[/]		[]	[]	[]	(A)	[DD/E		ETE)
* CIL RE	TE	NT:	ION	RAT	ION	ALE:	(If	appl	ica	able)	ADEQU.	ልጥፑ	г	ו	
DEM DVC										I	NADEQU.		[]	
REMARKS: A SHORT IOA RECO FMEA.	ACI														

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	FRO	29/88 CS-1040 -6KF-20		-1		ì	IASA BASE	DATA LINE NEW	[
SUBSYSTEMDAC ID:				FRO 104 RES		1.8	3K 1/4	W						
LEAD ANA	ALYS	ST	:	D.	HARTMA	N								
ASSESSMI	ENT	:												
	CR		ICAI LIGH	LITY	R	EDUN	IDANCY	SCR	EENS			CII		
	I		W/FU		. A		E	3	C	2				
NASA IOA	[3 3	/3 /3]	[]	[[]	[[]		[]	*
COMPARE	[/	3	[]	[1	[]		[]	
RECOMMEN	NDA!	rI	ONS:	. ((If dif	fere	ent fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/I] DELE	TE)
* CIL RI	•			RATI	ONALE:	(Ii	appl	icab.		ADEQU ADEQU		[]	
NO DIFFI	TKL	NC.	DO.											

ASSESSMI ASSESSMI NASA FMI	ENT	II	TE:	FRC	9/88 S-104 6KF-2	1 097 -	1			asa I Basei				
SUBSYSTIMDAC ID				FRC 104 RES		, 1.8	K 1/4	W						
LEAD AN	ALYS	ST:	:	D.	HARTM	AN								
ASSESSM	ENT:	:												
	CRI			LITY		REDUN	DANCY	SCF	REENS			CIL		
	I		LIGH W/FU	JNC		A	E	3	c	;				
NASA IOA	[3	/3 /3]	[[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDA'	ΓI	ONS	: ((If di	ffere	ent fi	com 1	NASA)					
	[/]	[)	[)	[)	(AI	[DD/I	_	ETE)
* CIL R	ETE	NT:	ION	RAT	CONALE	: (I1	f app:	lical	2	ADEQU ADEQU		[]	
REMARKS A SHORT IOA REC FMEA.	AC	RO EN	ss :	A RLI REMO	R TYPE VAL OF	RESI	ISTOR SHO!	IS I	NOT A	CRED	IBLE	FA]	- LU: TH:	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMI ASSESSMI NASA FMI	ENT	I	ATE:	FRC	9/88 S-1042 6KF-20		-1			NASA DA BASELI N		x]	
SUBSYSTI MDAC ID: ITEM:				FRC 104 RES	-	2.	2K 1/	2 W					
LEAD ANA	LY	ST	:	D. 3	HARTMA	N							
ASSESSMI	ENT	:											
	CR		ICAI LIGH		R	EDUI	NDANC'	Y SCI	REENS	}	CI	L EM	
	1	HDI	W/FU	INC	A		1	В		С		EM	
NASA IOA	[3	/3 /3]	[]	[]	[]	[]	*
COMPARE	[/]	[]	[]	ſ]	[]	
RECOMMEN	DA!	ric	ONS:	(:	[f dif	fere	ent fi	com N	IASA)				
	[/]	[]	Į]	[]	[(ADD/	DELI	ETE :
* CIL RE REMARKS:				RATIO	ONALE:	(II	f app]	licab	·	ADEQUATI ADEQUATI	_]	

ASSESSMENT ASSESSMENT NASA FMEA				97 - 1				ASA DATA BASELIN NE		x]	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1043 RESIST									
LEAD ANALYS	ST:	D. HAF	RTMAI	Ŋ							
ASSESSMENT	:										
CR	TICAL	ITY	RI	EDUND <i>i</i>	NCY	SCREE	ens		CI Th	IL TEM	
I	HDW/FU		A		В		С			. 1311	
NASA [IOA [3 /3 3 /3]	[[]	[]	[]	[[]	*
COMPARE [/]	[]	[]	[]	[]	
RECOMMENDA	rions:	(If	dif	ferent	fro	om NAS	SA)				
[/]	[]	[]	[] (DEI	LETE
* CIL RETE	NTION :	RATION	ALE:	(If a	appl:	icable	A	DEQUATE DEQUATE	[]]
REMARKS: A SHORT ACI IOA RECOMMI FMEA.							r a (CREDIBL	E FA	AILU	

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT ID:	FRCS	/88 -1044 KF-2093	-1			DATA: ELINE NEW	[]
SUBSYSTE MDAC ID:		FRCS 1044 RESI	STOR, 5	.1K 1/4	w				
LEAD ANA	LYST:	D. H	ARTMAN						
ASSESSME	NT:								
		ALITY	REDU	JNDANCY	SCREE	ens		CIL	
		GHT FUNC	A	В		С		TTE	M
NASA IOA	[3 /	3] 3]	[]	[]	[]		[] *
COMPARE	[/	1	[]	[]	[]		[]
RECOMMEN	DATION	s: (I	f diffe	rent fr	om NAS	SA)			
	[/	1	[]	[]	[]	(Al	[DD/D] ELETE
* CIL RE	TENTIO	N RATIO	NALE: ([f appl	icable		UATE UATE	[]
REMARKS:									

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ENT	II	ATE:	FRCS	9/88 5-1045 5KF-20	93 -	1			ASA I BASEI		[
SUBSYSTI MDAC ID ITEM:				FRCS 104! RES		5.1	K 1/4	W						
LEAD AN	ALY	ST	:	D. 1	HARTMA	N								
ASSESSM	ENT	:												
	CR			YTI	F	REDUN	DANCY	SCR	EENS			CIL		
			LIGH W/FU	NC INC	A	.	Ē	3	C	2			••	
NASA IOA]	3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	ſ]	[)		[]	
RECOMME	NDA	TI	ons:	: (If di	ffere	ent fi	com N	(ASA)					
	ſ		/]	[3	ĺ]	[]	(A	[DD/I		ETE)
* CIL R	ETE	NT	ION	RATI	ONALE	(If	f app]	Licak	1	ADEQU ADEQU]]	
REMARKS A SHORT IOA REC FMEA.	' AC	RO EN	SS 1	A RLR REMOV	TYPE	RESI THE	STOR SHOI	IS N RT" I	OT A	CRED	IBLE	FAI ROM	LUF THI	RE. IS

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	CNT	ID:	FRCS-	-1046		1]	NASA D BASEL	INE		,] x]	
SUBSYSTE MDAC ID:			FRCS 1046 RESIS	STOR,	2.2	K 1/:	2W						
LEAD ANA	LYS	T:	D. HA	RTMA	N								
ASSESSME	NT:												
		TICAL		R	EDUN	DANC	Y SCR	EENS			CII		
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												EM	
NASA IOA	[3 /3 3 /3]	[]	[]	[]		[] ,	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT:	ions:	(If	dif	fere	nt fi	com N	ASA)					
	[/]	[]	[]	[1	(Al	[DD/I] ELET	ΓE)
* CIL RE	TEN	rion :	RATION	ALE:	(If	app]	licab		ADEQUA'		[]	
REMARKS: NO DIFFE	REN	CES.						****	gvn	- 11	L	J	

ASSESSMI ASSESSMI NASA FMI	ENT	TI	٦.	FRCS	-104	7 098 -	·1		1	NASA I BASEI		[[]	
SUBSYST				FRCS 1047 RESIS	STOR	, 2.2	K 1/2	?₩						
LEAD AN	ALYS	ST	:	D. H	ARTM	AN								
ASSESSM	ENT:	:												
	CRI			ITY	1	REDUN	DANCY	SCR	EENS			CII		
	F		LIGH W/FU	NC	1	A	E	3	(2		TTE	.M	
NASA IOA]	3	/3 /3]	[]	[]]]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMME	NDAT	ΓI	ONS:	(I	f di	ffere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(Al	[DD/E] ELF	ETE)
* CIL R	ETEI	NT:	ION	RATIO	NALE	: (If	appl	icab		ADEQU <i>A</i>	\ጥE	r	1	
DEM DVA										ADEQUA		ί	j	
REMARKS A SHORT IOA RECO FMEA.	ACI													

ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-1048	98 -1		NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1048 RESISTOR,	1.8K 1/4	W		
LEAD ANALYST:	D. HARTMAI	4			
ASSESSMENT:					
CRITICA FLIG	LITY RI HT	EDUNDANCY	SCREEN	is	CIL ITEM
HDW/F		В		С	
NASA [3 /3 IOA [3 /3] [] [] []	[] *
COMPARE [/] [] [] []	[]
RECOMMENDATIONS	: (If dif:	ferent fr	om NASA	7)	
[/] [] [] [] (2	[] ADD/DELETE
* CIL RETENTION REMARKS: NO DIFFERENCES.		(If appl		ADEQUATE INADEQUATE	

ASSESSMEN ASSESSMEN NASA FMEA SUBSYSTEM	T :	DA ID :	:	1/29 FRCS 05-6 FRCS 1049	-1049 KF-209	98 - 1	L				ATA: INE [] NEW [X]			
MDAC ID: ITEM:				RESI	STOR,		K 1/4W	7						
LEAD ANA	LYS	T:		D. H	[ARTMAI	N								
ASSESSME	Tr:													
•	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C													
HDW/FUNC A B C														
NASA IOA	ſ	3	/3]		1	[[]	[[]	[] *			
COMPARE	[/]	Ţ	1	τ	3	ί]	[]			
RECOMMEN	IDA'	ΤI	ons	: (If dif	fere	ent fr	om 1	NASA)					
	[/	1	Į]	[]	(]	[] (ADD/DELETE)			
* CIL RI	ETE	ΓN	NOI	RATI	ONALE	: (I:	f appl	ica		ADEQU ADEQU	JATE [] JATE []			
REMARKS A SHORT IOA REC FMEA.	AC	RC IEI	SS NDS	A RLE REMOV	R TYPE VAL OF	RES THE	ISTOR "SHOI	IS RT"	NOT A FAILU	CREI	DIBLE FAILURE. DDE FROM THIS			
ISSUE R (SHORT	ESC FAI	LL! OL'	VED URE	AT MI	EETING TO BE	WIT	H SUB	SYSI •	EM MA	NAGE	R ON 1/20/88			

ASSESSM ASSESSM NASA FM	EN] EA	#:	ATE D:	FRC 05-	S-105 6KF-2	50 2109	-1			NASA D BASEL		[x]]
SUBSYST MDAC ID ITEM:				FRC 105 RES	-	2, 5.	1K 1/	'4W					
LEAD AN	ALY	ST	:	D.	HARTM	AN							
ASSESSM	ENT	:											
	CR		[CA LIG	LITY HT		REDUI	NDANC	y sci	REENS			IL	
	1	HDW	//F 1	UNC	•	A		В	1	С	I	TEM	
NASA IOA]	3	/3 /3]	[[]]]	[]]]	*
COMPARE	[/		ſ	J	[]	ι]	[]	
RECOMMEN	'DA'I	rio	NS:	(1	f di	ffere	nt fi	com N	ASA)				
			/		[_	[[1	[(ADD/] DELI	ETE)
* CIL RE	TEN	TI	ON	RATIO	NALE:	(If	appl	icab		DEQUAT	E [1	
REMARKS: NO DIFFE	REN	CES	s.						INA	DEQUAT	E [j	

ASSESSME ASSESSME NASA FME	NT I	D:		1051	09 - 1			N	IASA DA BASELI 1		[x]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1051 RESIST	ror,	5.1K	1/41	W							
LEAD ANA	LYSI	?:	D. HAI	RTMAI	4									
ASSESSME	NT:													
		ICALI		RI	EDUND	ANCY	SCRE	ENS			CI			
		W/FUI		A		В		C	:		11	EM	•	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	Ε]	[3		[]	
RECOMMEN	DATI	ONS:	(If	difi	feren	t fr	om NAS	SA)						
	[/]	[]	[]	[1	(AI		'DE		TE)
* CIL RE	TENT	I NOI!	RATIONA	ALE:	(If	appl	icable	A	DEQUAI		[]	
REMARKS:										_	•		•	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME SUBSYSTE MDAC ID: ITEM: LEAD ANA	ENT I EA #: EM:	D:	FRCS 05-6 FRCS 1052 RESI	-1052 KF-21 STOR,	2.2	1 K 1/2V	ī		ASA I BASEI		[]	
ASSESSME	SNT:												
			ITY T	R	EDUN	DANCY	SCR	EENS			CIL		
FLIGHT HDW/FUNC A B C													
NASA IOA	[3	3 /3]	[]	[]	[]		[] ;	*
COMPARE	[/]	[1	C]	[]		[]	
RECOMMEN	IDATI	ons:	(I	f dif	fere	ent fro	om N	ASA)					
	[/]	[]	[]	[3	(A	[DD/E) DELE	TE)
* CIL RE	:		RATIO	NALE:	(If	appl:	icab	P	DEQUA		[]	

ASSESSMEN ASSESSMEN NASA FMEA	T I T] L # :)A' [D	TE:	1/29 FRCS 05-6	/88 -1053 KF-211	.o -:	1				DATA: LINE [] NEW [X]		
SUBSYSTEM MDAC ID:				FRCS 1053 RESI		2.2	K 1/2W	J					
LEAD ANA	LYS'	T:		D. I	IARTMAI	1							
ASSESSME	T:												
•				YTI	R	EDUN	DANCY	SCF	REENS		CIL ITEM		
FLIGHT HDW/FUNC A B C													
NASA IOA	[3	/3 /3]	[]	[]	[[]	[] *		
COMPARE	[/]	[]	[]	[]	[]		
RECOMMEN	DA'I	ri,	ONS	: (If dif	fere	ent fr	om 1	NASA)				
	[/]	[]	٦.]	[3	[] (ADD/DELETE)		
* CIL RE	ETEI	ΝT	NOI	RAT	ONALE:	: (I:	f appl	ica	4		UATE [] UATE []		
REMARKS: A SHORT IOA RECO FMEA.	AC: OMM	RO EN	SS IDS	A RLI REMO	R TYPE VAL OF	RES THE	ISTOR "SHO	IS RT"	NOT A FAILU	CREI	DIBLE FAILURE. ODE FROM THIS		
ISSUE R	ESO FAI	L	/ED JRE	AT M MODE	EETING TO BE	WIT REM	H SUB IOVED)	sysi •	EM MA	NAGE	R ON 1/20/88		

ASSESSM ASSESSM NASA FM	ENI ENI EA	r c r i #:	ATE D:	FRC 05-	9/88 S-105 6KF-2	34 2109	-1			NASA D BASEL] X]	
SUBSYST MDAC ID ITEM:	EM:			FRC 105	:s						•	•	
LEAD AN	ALY	ST	:	D.	HARTM	AN							
ASSESSM	ENT	':											
	CR		ICA: LIG	LITY HT	:	REDUI	NDANC	Y SCI	REENS			IL	
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1076	NASA DATA: BASELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM: 2	FRCS 1076 RJDF1A F2 MANIFOLD DRIV	VER ON SWITCH CONTACTS 1,
LEAD ANALYST:		
ASSESSMENT:		
CRITICAL FLIGH	EENS CIL ITEM	
HDW/FU	NC A B	С
NASA [/ IOA [3 /2R] [] []] [P] [P]	[] [] * [P] []
COMPARE [N /N] [N] [N]	[N] []
RECOMMENDATIONS:	(If different from NA	ASA)
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* CIL RETENTION	RATIONALE: (If applicabl	
REMARKS:		ADEQUATE [] INADEQUATE []
RJDF1A F2 MANIFO	LD DRIVER SWITCH 8 RE-AN RCS 11130X-11134X.	VALYZED BY IOA. SEE

ASSESSMI ASSESSMI NASA FMI	ENT	I		FRCS-1	.077]	NASA DATA: BASELINE NEW	[]	
SUBSYSTI MDAC ID: ITEM: 2				FRCS 1077 RJDF1	A F2	MANI	FOLD	DRIVE	R	ON SWITCH	COI	NTACTS	3 3
LEAD AND	ALY	ST	:										
ASSESSMI	ENT	:											
	CR		ICAL LIGH		RI	EDUND	ANCY	SCREE	ens		CI		
]		W/FU		A		В			С			
NASA IOA	[2	//2]	[]	[[]	[]	[:	x] *	
COMPARE	[N	/N]	[]	[]	[1	[]	ן א	
RECOMME	NDA'	TI:	ons:	(If	dif:	feren	t fro	om NAS	SA)				
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* CIL R		NT	ION	RATION	ALE:	(If	app1:	icable		ADEQUATE ADEQUATE	[]	
REMARKS RJDF1A ASSESSM	F2							RE-ANA	LY	ZED BY IO	A.	SEE	

ASSESSME ASSESSME NASA FME	NT	I		FRCS	-1078	3			1	NASA BASE	DATA: LINE NEW]	
SUBSYSTE MDAC ID: ITEM: 4				FRCS 1078 RJDF:	lA F2	MAN	IFOLI	DRI	VER (OFF S	WITCH	CONT	racts	3,
LEAD ANA	LYS	T:												
ASSESSME	NT:													
			CAL	ITY	F	REDUN	DANCY	SCR	EENS			CIL [TEM		
			/FU		A	\	E	3	(2	-	LIEM		
NASA IOA	[3	/ /3]	[]	[]	[]			*	
COMPARE	[N	/N]	(]	[3	[]		[]		
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* CIL RE	-					•			IN?	ADEQUA	ATE	[]		
RJDF1A F ASSESSME								KE-A	NALYZ	TED B	Y TOY	. SE	Œ	

ASSESSMEI ASSESSMEI NASA FME	TN	IL		FRC	s-1079					ASA D BASEI]	
SUBSYSTEMDAC ID: ITEM:	M:			FRC 107 RJD		MAN	IFOLD	DRI	VER O	FF SW	ITCH	(CO	NTACTS	3,
LEAD ANA	LYS	ST	:											
ASSESSME	NT:	:												
	CR?		ICAL LIGH	ITY	R	EDUN	DANCY	SCF	REENS			CIL		
	1		W/FU		A		В		C	:				
NASA IOA	[3	/3]]]	[]	[[]		[] *	
COMPARE							£]	[3		[]	
RECOMMEN	IDA'	TI	ONS:	:	(If dif	fere	ent fr	om 1	NASA)					
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* CIL RI	ETE	ΝT	NOI	RAT	IONALE:	(11	f appl	ica		ADEQU ADEQU		[]	
REMARKS RJDF1A I ASSESSMI	F2	MA 'I	NIF Ds	OLD FRCS	DRIVER 11130X	SWI:	TCH 8	RE-	ANALY:	ZED B	Y IO	Α.	SEE	

ASSESSM ASSESSM NASA FM	ENT	I	D:	E:	FRCS-	.10	80							ASA D BASEI		[]	
SUBSYSTIMDAC ID ITEM:					FRCS 1080 RJDF1	A	F2	MAN	IFO	LD	DR	IVER	OI	N SWI	тсн	co	NTACTS	5,
LEAD ANA	ALY	ST	:															
ASSESSME	ENT	:																
		F	ICA LIC W/F	H			RI A	EDUN	DAN(CY B	SCI	REEN	s C			CI:	-	
NASA IOA	<u>[</u>	_	/	_]	[]	[]	[]		ſ] *	
IOA	L	3	/ 2	K	J	[P]	[P]	[P]		[j	
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RECOMMEN	DAT	ric	SNC	:	(If	d:	if1	ere	nt i	fro	om N	(ASA						
	[/		3	[]	[]	[]	(AD	[D/I] DELETE)
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RJDF1A F ASSESSME	2 M NT	IAN II	IIF)s	OL FR	D DRIV	/EF	R S	WITC	CH 8	R	E-A	NALY	ZE	D BY	IOA	•	SEE	

ASSESSMI ASSESSMI NASA FMI	ENT	II		FRCS-	1081				ì	NASA DAT BASELIN NI]	
SUBSYSTI MDAC ID: ITEM: 6				FRCS 1081 RJDF1	A F2	MANI	FOLD	DRIV	ER (ON SWITC	сн с	ON	FACTS	5,
LEAD AND	ALY	ST	:											
ASSESSMI	ENT	:												
	CR		ICAL LIGH		R	EDUND	ANCY	SCREI	ens		_	IL TEI	vr	
	1		W/FU		A		В		(2	_		•	
NASA IOA	[2	/2]	[]	[]	[]	[x] *	
COMPARE	[N	/N	1	[]	[]	[]	[N]	
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	[/ 1]	[]	[]	[1] ADD)	/D] ELETE)
* CIL R		NT:	ION	RATION	ALE:	(If	appl	icabl	1	ADEQUATI ADEQUATI]	
REMARKS RJDF1A ASSESSMI	F2							RE-AN	ALY:	ZED BY	IOA.		SEE	

ASSESSMENT D ASSESSMENT I NASA FMEA #:		1082		NASA DA BASELI N		
SUBSYSTEM: MDAC ID: ITEM: 8	FRCS 1082 RJDF1	A F2 MANI	FOLD DRIV	VER OFF SWI	ITCH CONTACTS	7,
LEAD ANALYST	:					
ASSESSMENT:						
	ICALITY LIGHT	REDUND	ANCY SCRE	EENS	CIL ITEM	
_	W/FUNC	A	В	С	IIEM	
	/] /2R]	[] [P]	[] [P]	[] [P]	[] *	
COMPARE [N	/N]	[N]	[N]	[N]	[]	
RECOMMENDATI	ONS: (If	differen	nt from NA	ASA)		
[/]	[]	[]	[]	[] (ADD/DELETE)	
* CIL RETENT REMARKS:	ION RATION	ALE: (If	applicab]	le) ADEQUAT INADEQUAT	• •	
RJDF1A F2 MA ASSESSMENT I				NALYZED BY	IOA. SEE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1	083					SA DA BASELI N		[]	
SUBSYSTEM: MDAC ID: ITEM: 8	FRCS 1083 RJDF1A	. F2	MANI	FOLD	DRIV	ER O	FF SWI	ГТСН	CON	TACT	s 7,
LEAD ANALYST:											
ASSESSMENT:									CIL		
CRITICA		R	EDUND	ANCY	SCR	EENS			ITE	A	
FLIG HDW/F		A		В		C					
NASA [/ IOA [2 /2]	[]	[]	[]		[[X] *	
COMPARE [N /N	1	[1	[]	[1		[N]	
RECOMMENDATIONS	: (If	dif	fere	nt fi	om N	ASA)					
]	[]	[]	[1	(A	[.DD/[] ELETI	E)
* CIL RETENTION	N RATION	IALE	: (If	app:	licak		ADEQUA ADEQUA		[]	
REMARKS: RJDF1A F2 MANI ASSESSMENT IDS	FOLD DRI	[VER 1130	SWIT X-111	CH 8	RE-	ANALY	ZED B	y IC	A.	SEE	

SUBSYSTEM: FRCS MDAC ID: 1084 ITEM: RJDF1A F2 MANIFOLD LOGIC SWITCH LEAD ANALYST: ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C NASA [/] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIJDF1A F2 MANIFOLD DRIVER SWITCH 7 RE-ANALYZED BY IOA. SEE ASSESSMENT IDS FRCS 11125X-11129X.	ASSESSM ASSESSM NASA FM	EN.	r]	D:	FRCS-	-10	084	ļ						ASA : BASE:	LIN]	
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C NASA [/] [] [] [] * 1	MDAC ID				1084	A	F2	MAN	IFO	LD	LOG	ic	SW	ITCH			-	
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C NASA [/] [] [] [] [] * 10A [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] * CIL RETENTION RATIONALE: (If applicable) REMARKS: RUDF1A F2 MANIFOLD DRIVER SWITCH 7 DE NALUGED DRIVER SWITCH 7 DRIVER S	LEAD AN	ALY	ST	':														
FLIGHT HDW/FUNC A B C NASA [/] [] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYSED DE CELL	ASSESSM	ENT	:															
NASA [/] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANNUALES DE COMPARE []			F	LIGH	T		R	EDUN	DAN	CY	SCR	EEN	s					
IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIMADEQUATE [] RIMADEQUATE [] RIJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYSES TO A			HD	W/FU	NC		A			В			С			11	EM	
COMPARE [N /N] [N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) REMARKS: RIDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALUEDO DE LETE		[3	/ /2R]	[P]]	P]	[P]		[]	*
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[/] [] [] [] (ADD/DELETE * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] REMARKS: RINADEQUATE [] RIJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALUGED DE COMPANY.	RECOMMEN	IDA:	ric	ons:	(If	d:	iff	eren	nt 1	rc	m NA	ASA)	į.					
ADEQUATE [] REMARKS: RJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYSED DE 1998		[/]	[]	[]	[]	(AI	[DD/1] DELE1	ΓE)
REMARKS: INADEQUATE [] RJDF1A F2 MANIFOLD DRIVER SWITCH 7 DE ANALYZED DE	* CIL RE	TEN	ITI	ON F	ATIONA	LE	::	(If	app	li	cabl	.e)						
RJDF1A F2 MANIFOLD DRIVER SWITCH 7 RE-ANALYZED BY IOA. SEE ASSESSMENT IDS FRCS 11125X-11129X.												IN	AD:	EQUAT	ľΕ]	
**	RJDF1A F. ASSESSME	2 M NT	IAN	IFOL s FR	D DRIV CS 111	ER 25	x-	WITC:	H 7 9X.	R	E-AN	ALY	ZE	D BY	IOA	١.	SEE	

ASSESSME ASSESSME NASA FME	NT	IL		FRCS-1	.085				N	IASA DA BASELI N		-]	
SUBSYSTE MDAC ID: ITEM:				FRCS 1085 RJDF1	A F2	MANI	FOLD	LOGIC	: SV	VITCH				
LEAD ANA	LYS	ST:	:											
ASSESSME	NT:	:												
	CR				RE	DUND.	ANCY	SCREE	ens			CII		
	1		LIGH /FU		A		В		(С				
NASA IOA	[2	//2]	[]	[]	[]]	[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	1]	
RECOMMEN	IDA'	TI	ons:	(If	dif	feren	t fr	om NAS	sa)					
	[/]	[]	[]	[]	(A	[DD/I	_	ETE)
* CIL RI	ETE	NT	ION	RATION	ALE:	(If	appl	icabl		ADEQUA' ADEQUA'		-]	
REMARKS: RJDF1A I ASSESSMI	F2	MA I	NIFC Ds F	LD DRI	VER	SWITC	CH 7	RE-AN	ALY	ZED BY	10	A.	SI	EE

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SUBSYSTI MDAC ID: ITEM:				FRCS 1086 RJDF1	A :	F2	MAN	VIFO	LD	LOG	SIC	SW	ITCI	H ON	CON	TACTS	: 1,
LEAD AND	\L Y	ST	:														
ASSESSMI	ENT	:															
		F	ICAL: LIGH:	r		R	EDUN	IDAN	CY	SCR	REEN	s			CI IT		
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NASA IOA]	3	/ /2R]	[P]]	P]	[P]		[] *	
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REMARKS:							•				-		DEQU DEQU] []	
RJDF1A F ASSESSME	2 I NT	IAN II	NIFOI Os FF	D DRIV	/EF	≀ s X-	WIT	CH '	7 F	RE-A	NAL	YZI	ED B	Y IO	A.	SEE	

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1087		N	BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1087 RJDF1A F2	MANIFOLD	LOGIC SW	ITCH ON	CONTACTS 1, 2	
LEAD ANALYST:						
ASSESSMENT:						
CRITICAL		EDUNDANCY	SCREENS		CIL ITEM	
FLIGH HDW/FU		В	C		4	
NASA [/ IOA [2 /2] [] [] []	[x] *	
COMPARE [N /N] [] [] [1	[N]	
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)			
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* CIL RETENTION	RATIONALE:	(If appl	1	ADEQUATE ADEQUATE	[]	
REMARKS: RJDF1A F2 MANIFO ASSESSMENT IDS F	LD DRIVER RCS 11125X	SWITCH 7 -11129X.	RE-ANALY:	ZED BY IO	A. SEE	

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SUBSYSTI MDAC ID: ITEM: 4				FRCS 1088 RJDF1	A F2	MAN	[FOLD	LOGI	C SI	WITCH	OFF	CON	FACTS	3
LEAD ANA	LY	ST	:											
ASSESSME	ENT	:												
	CR		ICAL LIGH		R	EDUNI	DANCY	SCRE	ENS			CIL		
		_	W/FU	_	A		В		C	2		ITE	1	
NASA IOA	[3	/3]	[]	[]	[]		[] *	
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RECOMMEN	DA'	ΓI	ons:	(If	dif	feren	t fro	om NA	SA)					
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REMARKS:										DEQUA DEQUA		[]	
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SUBSYSTE MDAC ID: ITEM: 4			FRCS 1089 RJDF1	A F2	MAN	[FOLD	LOG	c sw	итсн	OFF	CON	TACTS	3,
LEAD ANA	LYS	r:											
ASSESSME	NT:												
		TICAL FLIGH		R	EDUNI	DANCY	SCRI	EENS			CII	-	
	_	DW/FU	_	A		В		C	:		*15	11.1	
NASA IOA	[:	3 /3]	[]] []]]		[] *	
COMPARE	[]	N / N]	C]	[]	C	3		[]	
RECOMMEN	DAT:	ions:	(If	dif	fere	nt fr	om NA	ASA)					
	[/]	[]	[]	[]	(A)	[DD/I) DELETE)
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REMARKS: RJDF1A F ASSESSME	'2 M						RE-AI	NALY2	ZED BY	7 IO	Α.	SEE	

ASSESSMENT DE ASSESSMENT IN NASA FMEA #:		FRCS-1	LOS	90								DATA: LINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1090 RJDF2	A I	F3	MANI	FO1	ĹĐ	DRIV	ER	sı	VITC	ж			
LEAD ANALYST	:														
ASSESSMENT:															
CRIT:	[CAL] LIGHT			RI	EDUND	ANG	CY	SCRE	EN:	5			CIL		
HDI	/FUN	iC		A			В			С					
NASA [IOA [3	/ /2R]	[P]	[P]	[[P]		[]	*
COMPARE [N	/N]	[N]	[N]	[N]		[3	
RECOMMENDATIO	ons:	(If	di	if	feren	t i	fro	om NA	SA)					
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REMARKS: RJDF2A F3 MAI ASSESSMENT II								RE-AN			~		•	SEE	

ASSESSMI ASSESSMI NASA FMI	ENT	I		FRCS	-1091	•			ŀ	IASA 1 BASE1		[]	
SUBSYSTIMDAC ID				FRCS 1091 RJDF:	2 A F3	MAN	IFOLD	DRI	VER S	SWITC	Н			
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR			ITY	F	REDUN	IDANCY	SCR	EENS			CI		
			LIGH W/FU		P	\	Е	3	(2		11.	LIM	
NASA IOA]	2	/2]	[]	[]	[]		[x]	*
COMPARE	[N	/N]	[]	[]	[]			N]	
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* CIL R	ETE	NT	ION	RATIO	NALE:	(If	appl	icab	1	ADEQU. ADEQU.		[]	
REMARKS RJDF2A ASSESSM	F3							RE-A	NALY:	ZED B	Y IO	٨.	SE	EE

ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-10	092					ASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM: 2		FRCS 1092 RJDF2A	F3	MANIF	OLD	DRIVE	ER OI	N SWITCH	CON	TACTS	1,
LEAD ANALY	ST:										
ASSESSMENT	:										
CR	ITICAL:		RE	EDUNDA	NCY	SCREE	ens		CIL		
	HDW/FUI	NC	A		В		С				
NASA [IOA [/ 3 /2R] [[[P]	[[P]	[[P]	[] *	
COMPARE [n /n] [[N]	[]]	[N]	[]	
RECOMMENDA	TIONS:	(If d	liff	erent	fro	om NAS	SA)				
[/] [[]	[]	[] (A	[DD/D] ELETE))
* CIL RETE	NTION 1	RATIONAI	LE:	(If a	ppl	icable	•	DEQUATE	ſ	1	
REMARKS:								DEQUATE	į	ĵ	
RJDF2A F3 ASSESSMENT						RE-ANA	LYZI	ED BY IO	A. :	SEE	

ASSESSME ASSESSME NASA FME	TK	II		FRCS	-1093						DATA: ELINE NEW	[]]	
SUBSYSTE MDAC ID: ITEM: 2				FRCS 1093 RJDF	2A F3	MAN	IFOLD	DR	IVER	on s	WITCH	CO:	NTÆ	\CTS	3 1
LEAD ANA	LY	ST	:												
ASSESSME	NT	:													
	CR		ICAL LIGH		RI	EDUN	DANCY	SCI	REENS			CI IT	L EM		
	1		W/FU		A		В			С					
NASA IOA	[2	/2]	[]	[]	[]		[x :) *]	
COMPARE	C	N	/N]	[1	C]	[]		[N]]	
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* CIL R	ETE	NT	ION	RATIO	NALE:	(If	appl	ica			UATE UATE]]	
REMARKS RJDF2A I ASSESSMI	F3	MA 'I	NIFO Ds F	LD DE	RIVER	SWI7	TCH 6	RE-	ANAL	ZED	ву Іо	A.	S	EE	

ASSESSM ASSESSM NASA FM	ENI	'I		•	S-1094	4			;		DATA: ELINE [NEW []	
SUBSYST MDAC ID ITEM: 4				FRC 109 RJD	4	3 MAI	NIFOLD	DR	IVER (OFF 8	SWITCH (ONTACT	'S 3,
LEAD AN	ALY	ST	:										
ASSESSM	ENT	!:											
	CR		ICAI LIGI	LITY	F	REDUI	NDANCY	SCI	REENS		CI	L EM	
		HD	W/FT	JNC	7	1	В	•	(2		2	
NASA IOA	[3	/ /3]]]	[]	[[]]] *	
COMPARE	[N	/N]	ſ]	[]	[]	[3	
RECOMME	NDA	TI	ONS:	: (:	f dif	fere	ent fr	om N	IASA)				
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REMARKS: RJDF2A I ASSESSME	73]							RE-A	NALY2	ED E	Y IOA.	SEE	

ASSESSME ASSESSME NASA FME	ENT	ID:	FRCS-	-109	5]		DATA ELINE NEW	[]	
SUBSYSTE MDAC ID: ITEM: 4			FRCS 1095 RJDF2	2A F	3 MAN	IFOLD	DRI	VER (OFF S	SWITC	нс	ONTAC	TS 3
LEAD ANA	LYS	T:											
ASSESSME	NT:												
		TICAI FLIGH		I	REDUN	DANCY	SCF	REENS			CI IT		
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NASA IOA	[3	/2R]	[P]	[P]	[P]		[[] *	•
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RECOMME	VDA	TI	ons:	(If	di.	ffe	rent	fr	om Ni	ASA))					
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REMARKS:							_	_			IA IA	DEQU.	ATE ATE	[]	
RJDF2B F	4/	F5	MAN	FOLD I	.OG	IC I	RE-AN	AL	ZED	вч	IC	A.	SEE	ASS	ESSM	ENT
IDs FRCS	3 1	11	45X-1	L1149X.												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1117					ASA DATA: BASELINE NEW	[]
30001012	FRCS 1117 RJDF2B F4/	/F5 MA	NIFO:	LD LC	GIC	SWITCH		
LEAD ANALYST:								
ASSESSMENT:								
CRITICAL		EDUNDA	NCY	SCREI	ens		CIL	
FLIGH HDW/FU	_		В		С			
NASA [/ IOA [2 /2] []	[]	[]	[x] *]
COMPARE [N /N				1	[[N]
RECOMMENDATIONS:	(If dif	ferent	fro	m NA	SA)			
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* CIL RETENTION	RATIONALE:	(If a	appli	icabl		ADEQUATE ADEQUATE]
REMARKS: RJDF2B F4/F5 MAI IDs FRCS 11145X	NIFOLD LOGI -11149X.	C RE-	ANAL'	YZED	BY :	OA. SEE	ASS	SESSMENT

ASSESSME ASSESSME NASA FME	TN	I		FI	RCS-1	11	18								DATA ELINI NEV			
SUBSYSTE MDAC ID: ITEM: 1, 2	M:				18	3	F4,	/F5	MAN	ΊF	OLD	LOG	ic	sw	ІТСН	on	CON	PACTS
LEAD ANA	LYS	ST	:															
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COMPARE	[N	/N]		[N]	ĺ	N]	[N]		[]	
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RJDF2B F4 IDs FRCS	/F	5 14	MANI 5X-1	FOI	LD LO	OG	IC	RE	E-ANA	LY	ZED	BY	IO	A.	SEE	ASS	SESS	MENT

ASSESSMEN ASSESSMEN NASA FME <i>l</i>	T	ID		FRCS	5-1119				ì	NASA D BASEL		[]	
SUBSYSTEMDAC ID: ITEM: 1, 2				FRCS 1115 RJD		F5 1	MANIFO	old :	LOGI	C SWIT	CH O	n co	NTA(CTS
LEAD ANA	LYS	T:												
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ı	CR]			ITY	RE	DUN	DANCY	SCR	EENS			CIL ITEN	1	
	ŀ		LIGH V/FU		A		В			С				
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COMPARE	[N	/N]	[]	[]	[1		[N]	
RECOMMEN	IDA'	TI	ons:	: (If diff	fere	ent fr	om N	IASA)					
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* CIL RE	ETE	NT	ION	RATI	ONALE:	(If	appl	icak		ADEQU NADEQU	ATE ATE	[]	
REMARKS: RJDF2B I IDs FRCS	74/	F5	MA 45X	NIFO1 -1114	LD LOGI	C RI	E-ANAL	YZEI	р ву	IOA.	SEE	ASS	ESSM	1ENT

ASSESSM ASSESSM NASA FM	EN'I	ľ	D:		CS-112	0				nasa Basi	ELINE				
SUBSYST MDAC ID ITEM: 3, 4				FR 11 RJ	20	4/ F 5	MANII	FOLD	LOGI	C SW	ГТСН	OFF	CONTACTS		
LEAD AN	ALY	ST	:												
ASSESSMI	ASSESSMENT:														
CRITICALITY REDUNDANCY SCREENS FLIGHT													ن		
				JNC	A	\	E	3	(2		ITE	ŭ M		
NASA IOA	[3	/3]	[]	[]	[]		[] *]		
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RECOMMEN	IDA'	TIC	ons:	((If dif	fere	nt fr	om l	NASA)						
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REMARKS: RJDF2B F IDs FRCS	4/I 1:	F5 L14	MAN 5X-	IFOL 1114	D LOGI	C RE	-ANAL	YZEC				ASS	ESSMENT		

ASSESSME ASSESSME NASA FME	NT	II		FRCS-	1121					NASA 1 BASE:	DATA: LINE NEW	[-	
SUBSYSTE MDAC ID: ITEM: 3, 4				FRCS 1121 RJDF2	B F 4,	/F5	MANIFO	OLD	LOGI	C SWI	тсн с	FF	CONT	PACTS
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
	CR			ITY	R	EDU	NDANCY	SC	REENS			CII		
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NASA IOA	[3	/3]	[[]	[]	[]		[] *	ŧ
COMPARE	[N	/N]	[1	[]	[]		C]	
RECOMMEN	IDA'	TI	ons:	(If	dif	fer	ent fr	om	NASA)					
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REMARKS: RJDF2B I IDs FRCS	74/	F5 11	MAN 45X-	IIFOLD ·11149X	LOGI	C R	E-ANAL	YZE	D BY	IOA.	SEE	AS	SESSI	MENT

ASSESSMEN ASSESSMEN NASA FMEA	IT :	ID:		FRCS-	1122						DATA LINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	ſ:			FRCS 1122 RJDF21	3 L5,	/F5/R5	5 MAI	NIFOL	D DR	IVER	SWI	гсн	ſ		
LEAD ANAI	LYS!	T:													
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c				TY	RI	EDUND A	NCY	SCRE	ENS			CI		•	
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NASA IOA	[:	2 /	'2]	[]	[]	[]		[x]	*
COMPARE	[]	N /	'N]	[]	[]	[]		[N]	
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									IA IANI	DEQUA DEQUA	ATE ATE	[]	
REMARKS: RJDF2B F4 ASSESSMEN								15 RI						. •	SEE

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	FRCS-112	23				ASA DATA BASELINE NEW]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1123 RJDF2B	L5/F	5/R5 MA	NIFOLD	DR:	IVER SWI	тсн		
LEAD ANALYST:									
ASSESSMENT:									
	LITY	REDI	UNDANCY	SCREE	ens		CIL ITEN		
FLIC HDW/1	UNC	A	В	}	С		1151	•	
NASA [/ IOA [3 /2] [R] [p]	[[P]	[[P]	[]	*
COMPARE [N /	1] [и ј	[N]	[N]	[]	
RECOMMENDATIONS	: (If d	iffe	rent fr	om NAS	SA)				
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REMARKS: RJDF2B F4/F5 M ASSESSMENT IDS	ANIFOLD DR FRCS 1115	IVER	SWITCH	I 15 R					SEE

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SUBSYSTIMDAC ID:	3	,	2	FRCS 1124 RJDF2	B L5	/F5/R	5 MA	NIFOL	D DR	IVER	ON :	s w]	[TC	ЭH	
LEAD ANA	LY	ST	:												
ASSESSME	ASSESSMENT:														
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REMARKS: RJDF2B F ASSESSME	4/1	F5	MAN:	IFOLD	DRIV	ER SW:	ITCH	15 R	E-AN	ALYZE	D BY	ľ	OA	. •	SEE
THECHEOLE	7.4 T	1	DO LI	uco II	TOOY.	- T T T D 3	JA.								

ASSESSMENT DATE: ASSESSMENT ID: FRCS-1125 NASA FMEA #: SUBSYSTEM: FRCS																DATA LINI NEV		•		
SUBSYSTE MDAC ID: ITEM: CONTACTS				11: RJ	25 DF2B	ı I	L5/	F5/	'R5	MA	NI	FOLD) [DR]	(VER	ON	swi	тсн		
LEAD ANA	LY	ST:	;																	
ASSESSME	SESSMENT:																			
CRITICALITY REDUNI FLIGHT HDW/FUNC A									IDAN	CY		CREE	ENS	S C			CI	L EM		
]	HDV	v/FUI	NC			A			Б				C						
NASA IOA	[3	/ /2R]		[P]	[F]]	P]		[]	*	
COMPARE	[N	/N	3		[N]	(N]		[N]		C]		
RECOMMEN	IDA'	TI	ons:		(If	d :	ifí	fere	ent	fr	om	NAS	5 A])						
	[/]		[]	ĺ	•]		[]	(.	[ADD/	DEL	ETE	:)
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REMARKS: RJDF2B I ASSESSMI	74/	F5 I	MAN Ds F	IFO RCS	LD I	DR:	IVI 5X-	ER S	SWI?	rci	I 1	5 RI							S	EE

ASSESSME ASSESSME NASA FME	NT	I		FRCS-	1126	i			N	IASA 1 BASE1		[]	
SUBSYSTE MDAC ID: ITEM: CONTACTS		,		FRCS 1126 RJDF2	B L5	/F5/F	R5 MA	NIFOL	D DF	RIVER	OFF	SWI	тсн	
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
	CR		ICAL LIGH	ITY T	R	EDUND	ANCY	SCRE	ENS			CIL	ve.	
		_		NC	A		В		c	•		ITE	M.	
NASA IOA	[3	/3]	[]]]	[]		[] '	k
COMPARE	[N	/N]	(]	[]	[]		[)	
RECOMMEN	'DA'	ri(ons:	(If	dif	feren	t fro	om NA	SA)					
	[/	1	[]	[]	[]	(AD	[D/DI		re)
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REMARKS: RJDF2B F ASSESSME	4/] NT	F5 I1	MAN: Ds Fi	IFOLD I	DRIV	ER SW -1115	ITCH 9X.	15 R					۸.	SEE

ASSESSME ASSESSME NASA FME	NT	ID		FRCS-1	.127						DATA: LINE NEW	Γ]
SUBSYSTE MDAC ID: ITEM: CONTACTS		4		FRCS 1127 RJDF2F	3 L5/	F5/R5	MAN	IFOLD	DRI	VER	OFF	SWIT	:CH
LEAD ANA	LYS	T:											
ASSESSMENT: PEDINDANCY SCREENS CIL													
FLIGHT REDONDANCE SCREENS													4
	CHIII												
NASA IOA	[3	/]	[]	[]	[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	IDA'	ric	ons:	(If	dif	feren	t fr	om NAS	SA)				
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REMARKS RJDF2B	F4/	F5	MAN Ds I	IIFOLD FRCS 11	DRIV	ER SW -1115	ITCH	15 R	E-AN	ALY2	ED B	Y IO	A. SEE

ASSESSMI ASSESSMI NASA FMI	ENT	' I	D:	FRCS-	·1128	3]	NASA D BASEL		[]	
SUBSYSTI MDAC ID: ITEM: CONTACTS	•			FRCS 1128 RJDF2	B L5	5/F5/F	R5 M.Z	MIFOI	D DI	RIVER	on s	WIJ	ГСН	
LEAD ANA	/LY	ST	':											
ASSESSME	ENT	:												
	CR		ICAL LIGH	ITY	R	EDUNE	ANCY	SCRE	ENS			CIL	_	
	:			NC	A		В	1	c	2		ITE	M	
NASA IOA	[2	/2]	[]	[]	[]		[[x]	*
COMPARE	[N	/N]	[]	[]	[]	ĺ	N	.]	
RECOMMEN	'DA'	ΓI	ons:	(If	dif	feren	t fr	om NA	SA)					
	£		/]	[]	[1	ſ]	(ADE)/D] ELE	TE)
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RJDF2B F ASSESSME	4/I NT	75 II	MAN: Os FI	FOLD I	DRIVI L55X-	ER SW:	ITCH 9X.	15 RI	E-AN	ALYZED	ВУ	IO	A.	SEE

ASSESSME ASSESSME NASA FME]		DAT MILES NE		[]							
SUBSYSTE MDAC ID: ITEM: CONTACTS		, (FRCS 1129 RJDF2E	3 I	5 5/	'F5/R	5 1	1AP	ΊF	OLD	D	RIVE	er on	1 5	SWITC	ЭН	
LEAD ANA	LY	ST	;															
ASSESSME	NT	:																
		F	[CAL] LIGH! V/FUI			RE A	DUND	AN	CY B	sc	REE		с			CIL ITEN	ſ	
NASA IOA	[3	/ /2R]	[P]]	P]		[] P]			[]	*
COMPARE	[N	/N]	(N	1	[N]		[N]			[]	
RECOMMEN	DA'	rI(ons:	(If	đi	Ĺff	feren	t:	fro	om	NAS.	A)						
	[/]	[]	[]	•	[]		(AI	[ID] ELE	TE)
* CIL RE		NT:	ION I	RATION	ALI	Ξ:	(If	ap)	pl:	ica				QUATI		[]	
RJDF2B F	4/	F5 I	MAN	IFOLD I	OR:	EVI 5X-	ER SW -1115	IT 9X	CH •	15	RE	-A	NAL!	YZED	B	Y IO	Α.	SEE

ASSESSMI	ZM.T.	D	AIL	:					N	ASA D	A'I'A :	,		
ASSESSMI NASA FMI			D:	FRC	S-1130)				BASEL	INE NEW]	
SUBSYSTE MDAC ID: ITEM: CONTACTS	ŀ				0 F2B L5	5/F5/	/R5 MA)	NIF	OLD DR	IVER (OFF	SWI	тсн	
LEAD ANA	LY	ST	:											
ASSESSME	ENT	:												
	CR:		ICAI LIGI		F	REDUN	IDANCY	sci	REENS			CIL		
	1	HDI	W/F	JNC	2	L	В		C	•				
NASA IOA	[3	/ /3]	[]	[]	[]		[] *	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	IDA'	ri	SMC:	: (If dif	fere	ent fr	om 1	NASA)					
	[/]	[]	Ί]	[]	(AE	[D/D] ELETE)
* CIL RE	TE	NT:	ION	RATI	ONALE:	(If	appl	ical	A	DEQUA' DEQUA']	
REMARKS: RJDF2B F ASSESSME	4/1	F5 II	MAN Ds 1	NIFOL FRCS	D DRIV	ER S	WITCH	15		-		•	A. S	EE

ASSESSMENT DATE: ASSESSMENT ID: FRCS-1131 NASA FMEA #: SUBSYSTEM: FRCS											DATA: LINE NEW	[]
SUBSYSTEM MDAC ID: ITEM: CONTACTS				1131 RJDF2E	3 L5/	'F5/R5	5 MAN	IIFOLI	DRI	VER	OFF	swii	гсн
LEAD ANA	LYS	ST:	:										
ASSESSME	NT:	:											
•	CR:		ICAL: LIGH		RE	EDUNDA	MCY	SCREE	ens			CIL	
	1		W/FU		A		В		С				-
NASA IOA	[3	/ /3]	[]	[]	[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DA!	ri	ons:	(If	difi	ferent	t fro	om NAS	SA)				
	[/]	[]	[]	[]	(Al	[D/DI] ELETE)
* CIL RE	TE	NT:	ION	RATION	ALE:	(If a	appl	icable	A	DEQU.	ATE ATE	[]
RJDF2B F	EMARKS: JDF2B F4/F5 MANIFOLD DRIVER SWITCH 15 RE-ANALYZED BY IOA. SEE SSESSMENT IDs FRCS 11155X-11159X.												

ASSESSME NASA FME	NT	II) :	FRCS NONE					P		DATA LINE NEW	: [[]	
SUBSYSTEM MDAC ID:	M:			FRCS 1132 RJDF:	LB MA	NIF(OLD F1	TRI	CKLE	TEST	ı			
LEAD ANA	LYS	T:	:	D. H	ARTMA	N								
ASSESSME	NT:													
(CRI		CAL LIGH		R	EDUì	NDANCY	SCR	EENS			CI IT		
	H		/FU	_	A		В		C	2			LM	
NASA IOA	[3	/ /3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[1	[]	[]		[]	
RECOMMEN	DAT	'IC	NS:	(Ii	dif	fere	ent fro	om N	ASA)					
	[/]	[3	[]	[]	(AI	[DD/:] DELE	TE
* CIL RET	PEN	ΤI	ON 1	RATION	TALE:	(If	f appli	cab	A	DEQU	ATE ATE	[]	
THE THRE	E R	IJ[F T	RICKL	TES'	rs j	MPLEME	ENT	A SOF	TWAR	E ROU	TI	NE T	0

VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS. ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C

ANALYSIS AND ASSESSMENT.

ASSESSME ASSESSME NASA FME	NT	ID	NONE								ASA D BASEL		-]	
SUBSYSTE MDAC ID: ITEM:				FRO 113 RJI	33	MAN	IFOL) F2	TRICK	LE '	TEST				
LEAD ANA	LYS	ST:		D.	HAR	TMAN	İ								
ASSESSME	NT:	:													
	CR:			YTI		RE	DUND	ANCY	SCREE	NS			CIL	М	
	FLIGHT HDW/FUNC							В	В		С				
NASA IOA	[3	/]		[]	[]	[]		[]	*
COMPARE	[N	/N]		[]	[]	[]		[]	
RECOMME	NDA'	TI	ONS:	:	(If	difi	feren	t fr	om NAS	SA)					
	[/]		C]	[3	[]	(A	[DD/D] ELE	TE)
* CIL R	ETE	NT	ION	RAT	'ION <i>I</i>	ALE:	(If	appl	icable	£	ADEQUA ADEQUA]	
THE THR VERIFY ASSOCIA	REMARKS: THE THREE RJDF TRICKLE TESTS IMPLEMENT A SOFTWARE ROUTINE TO VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS. ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C ANALYSIS AND ASSESSMENT.														

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1134 NASA FMEA #: NONE									1	NASA DA' BASELII NI]	
SUBSYSTE MDAC ID:				FRCS 1134 RJDF		ANIF	OLD F3	TR	ICKLE	TEST			
LEAD ANA	LY	ST	:	D. H	IARTMA	AN .							
ASSESSME	NT	:											
	CR		ICAL LIGH	ITY T	F	REDUI	NDANCY	SCF	REENS		CI:	_	
	1	HD	W/FU	NC	A	١	В	C	:	41	eari .		
NASA IOA]	3	/3]	[]	[]	[]]] ;	k
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DA:	ri	ons:	(I	f dif	fere	ent fro	om N	ASA)				
	[/]	[]	[]	[[ADD/I] DELET	ľE)
* CIL RE	TEI	VT:	ION 1	RATIO	NALE:	(If	appli	cab	A	DEQUATE DEQUATE]	
THE THREE	E F	MI	OF TH	RICKL	E TES	TS I	MPLEME	NT .	A SOF	TWARE R	OUTIN	E TO)

VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS. ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C

ANALYSIS AND ASSESSMENT.

NASA DATA:

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1135 NASA FMEA #: NONE										SA DA BASELI N		•]		
SUBSYSTEM MDAC ID:	M:			FRO 113 RJI	5	MAN	IFOLD	F4,	F5 T	RICE	KLE TE	est			
LEAD ANA	LYS	T:	}	D.	HAR	TMAN			•						
ASSESSME	NT:														
CRITICALITY REDUNDANCY SCREE										NS			CIL	1	
	HDW/FUNC							В		С					
NASA IOA	[[/] [] [] [] [] [] []								[]	*			
COMPARE	[N	/N]		[]	[]	[]		[]	
RECOMMEN	DA'	ΓI	ons:		(If	diff	ferent	fro	om NAS	SA)					
	[/]		[]	[]	[]	(AI	[DD/D		ETE)
* CIL RE	TE	NT:	ION	RAT	ION	ALE:	(If a	appl	icable	A	DEQUA DEQUA		_]	
THE THRE VERIFY I ASSOCIAT	REMARKS: THE THREE RJDF TRICKLE TESTS IMPLEMENT A SOFTWARE ROUTINE TO VERIFY LOGIC OUTPUTS FROM VARYING A AND B PULSE COMMAND INPUTS ASSOCIATED FAILURES HAVE BEEN CONSIDERED IN THE HARDWARE/EPD&C ANALYSIS AND ASSESSMENT.														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1136 03-2F-121	2	NASA DAT BASELIN NE] K]	
SUBSYSTEM: MDAC ID: ITEM: F3D, F2D, F4D	FRCS 1136			SENSOR, THRU	STERS	5 F1D,
LEAD ANALYST:	D. HARTMA	M				
ASSESSMENT:						
CRITICAL: FLIGHT HDW/FUI			ANCY SCRE	EENS C	CII	
		-	_			
NASA [3 /1R IOA [3 /2R] [P	,]	[P] [P]	[P] [P]	[[] *]
COMPARE [/N] []	[]	[]	[]
RECOMMENDATIONS:	(If dif	ferent	from NA	SA)		
[/] []	[]		[ADD/D] ELETE)
* CIL RETENTION F		(If a	applicabl	e) ADEQUATE INADEQUATE]
IOA AGREES WITH N	IASA FMEA.					

ASSESSMI ASSESSMI NASA FMI					RCS-1137 3-2F-121314 -1					NASA DATA: BASELINE [NEW []]				
SUBSYSTEMDAC ID ITEM: F3D, F2	:	F4D		FR 11 CH	37	R	PI	RESSU	JRI	Ε (P	c) SI	ens	SOF	٤, !	THRUS	TE	RS	F1	LD,
LEAD AN	ALYS	T:		D.	HAR	TM	(A)	1												
ASSESSM	ENT:	:																		
	CR1	TIC					RI	EDUNI	IA C	ICY		SCREI	ENS	3				IL TEM	1	
	H	IDW/	'FUI	NC			A			E	3			С						
NASA IOA	[[3 / 3 /	'1R '2R]]	P P]		F	•]	[P P]]]	*
COMPARE	(/	'N]		[]	l]	[]		[]	
RECOMME	radn	CION	ıs:		(If	di	Ĺf	fere	nt	fr	0	m NAS	SA)							
	(/	•]		[]	1	•]	[3	(A)/DI		ETE)
* CIL R		TIC	N I	RAT	IONA	LE	E :	(If	ar	p)	. i	cable	-		-	UATE UATE	_]	

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FPCS-1138	314 -2	BAG	A DATA: SELINE [NEW [X]
	1138	PRESSURE (F	c) SENSOR,	THRUSTERS	F1F,
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
FLIGH'		EDUNDANCY B	SCREENS C	CIL I TEM	
NASA [3 /1R IOA [3 /2R] [P	[P] [P]	[] *]
COMPARE [/N] [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent fro	m NASA)		
[/] [] [] []	[(ADD/DE] LETE
* CIL RETENTION DE REMARKS: IOA AGREES WITH DE REMARKS		(If appli		QUATE [QUATE []

ASSESSME ASSESSME NASA FME	NT ID:	EDCC-	'88 -1139 ?-12131	4 -1			DATA: ELINE (NEW ()	
SUBSYSTE MDAC ID: ITEM: F2F, F3F		FRCS 1139 CHAMI	BER PRE	SSURE	(Pc) :	SENSOR,	THRUSTERS	5 F1F,
LEAD ANA	LYST:	D. H	ARTMAN					
ASSESSME	NT:							
		ALITY	REI	OUNDAN	CY SCR	EENS	CI IT	
		GHT FUNC	A		В	С		
NASA IOA	[3 /	'1R] '2R]	[P]] [P] P]	[P] [P]	[] *
COMPARE	[/	'N]	[] []	[]	[]
RECOMMEN	IDATION	ıs: (I	f diff	erent	from N	(ASA)		
	[/	′]	C] [3	[]		DELETE)
* CIL RI	ETENTIC	ON RATIO	NALE:	(If ap	plicab	ADE	QUATE [QUATE []
REMARKS	:							

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		10 21314 -2			A DATA: SELINE [NEW [x]
SUBSYSTEM: MDAC ID: ITEM: F3L, F2R, F4R	FRCS 1140			SENSOR,	THRUSTER	s F1L,
LEAD ANALYST:	D. HARTM	IAN				
ASSESSMENT:						
CRITICALI FLIGHT HDW/FUN	?	REDUNDAN A	ICY SCRE	eens C	CI IT	
NASA [3 /1R IOA [3 /2R] [P] [P]	[P] [P]	[] *
COMPARE [/N] [] []	[]	[]
RECOMMENDATIONS:	(If di	fferent	from NA	SA)		
. [/] [) []	[]	[(A DD/1] DELETE
* CIL RETENTION R REMARKS: IOA AGREES WITH N			plicabl		UATE [UATE []

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1141 03-2F-1213	14 -1	NASA BASE	DATA: LINE [] NEW [X]
MDAC ID:	FRCS 1141 CHAMBER PR	ESSURE (P	c) SENSOR, T	HRUSTERS F1L,
LEAD ANALYST:	D. HARTMAN	Ī		
ASSESSMENT:				
CRITICAL FLIGH HDW/FU		DUNDANCY B	SCREENS C	CIL ITEM
NASA [3 /1R IOA [3 /2R] [P]] [P]] [P]	[] *
COMPARE [/N] [] [] []	[]
RECOMMENDATIONS:	(If diff	erent fro	om NASA)	
[/] [] [] []	[] (ADD/DELETE)
* CIL RETENTION :	RATIONALE:	(If appli		VATE []

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NT DATE NT ID: A #:	FRCS 03-2		4 -2			NASA DATA: BASELINE [] NEW [X]			
SUBSYSTE MDAC ID: ITEM: F2U, F3U	M:	FRCS				SENSOF	R, THRUS	STERS	S F1U,	
LEAD ANA	LYST:	D. H	ARTMAN							
ASSESSME	NT:									
	CRITICA: FLIG HDW/F	HT	RED A		Y SCR B	EENS C		CII		
NASA IOA	[3 /1] [3 /2]	R] R]	[P] [P]	[]	P] P]	[P [P]	[] *	
COMPARE	[/N]	[]	[]	[]	[]	
RECOMMEN	DATIONS	: (I	f diffe	rent f	rom N	ASA)				
	[/]	[]	[]	[] (2	[\DD/[] DELETE	
* CIL RE REMARKS: IOA AGRE			·	If app	licab	ÀI	DEQUATE DEQUATE	-]	

ASSESSMEN ASSESSMEN NASA FMEA SUBSYSTEN MDAC ID: ITEM:	NT A # M:	ID:	FR 03 FR	CS-1: -2F-: CS	143	L3:				°C)	SEN	1	BASE		[}	()	1U	,
F2U, F3U		T:	D.	HAR	TM	ΔN												
ASSESSME																		
		TICAL FLIGH	T			RE A	DUND	AN	CY B	SCI	REEN	is C			CII			
NASA IOA	[3 /1R 3 /2R]		[P P]	[P P]	[P]		[]	*	ť
COMPARE	[/N	3		[]	ĺ]	l		}		[]		
RECOMMEN	DAT	rions:		(If	di	ff	eren	ıt	fr	om :	NAS	A)						
	[/]		[]	(]	!	[3	(2	[ADD/	DEI		ſE)
* CIL RE		NTION	RAT	rion <i>a</i>	LΕ	:	(If	ap	pl	ica		P		UATE UATE	-	1))	

IOA AGREES WITH NASA FMEA.

	ENT ID:	: 1/29/88 FRCS-11 NONE					DATA: ELINE [NEW []
SUBSYSTE MDAC ID:	•	FRCS 1144 CHAMBER	R PI	RESSURE	(Pc) S	SENSOR,	THRUSTERS	F5L, F5R
LEAD ANA	ALYST:	D. HART	(AM	Ī				
ASSESSME	ENT:							
	FLIGH		RE	DUNDAN	CY SCRE	ENS	CIL ITE	
	HDW/FU	INC	A		В	С		
NASA IOA	[/ [3 /2F] [P] [p]	[] [P]	[] *]
COMPARE	[N /N] [N] [n j	[N]	[]
RECOMMEN	DATIONS:	(If d	liff	erent :	from NA	.SA)		
	[3 /2F] [P] [F]	[P]	[A (ADD/DI	
* CIL RE	TENTION	RATIONAL	E:	(If app	plicabl			
						ADEQU INADEQU	JATE (JATE (]
REMARKS: VERNIER FMEA. I PRIMARY	OA RECOM	mends th	EIR	INCLUS	SION IN	RS NOT A	ADDRESSED	BY A

SUBSYSTEM MANAGER STATED THAT THE SENSORS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THE FAILURE BE INCORPORATED INTO A FMEA.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11	45		NASA DATA: BASELINE NEW	r 1
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1145 CHAMBER	PRESSURE	(Pc) SENS	SOR, THRUST	ERS F5L, F5R
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
		REDUNDANC	Y SCREENS	5	CIL ITEM
FLIGH HDW/FU	NC	A	В	С	
NASA [/ IOA [3 /2R] [] [P] [P] [p]	[] *
COMPARE [N /N] [и][N] [N]	[]
RECOMMENDATIONS:	(If d	lifferent f	rom NASA)	
[3 /2F	١) [P] [F] [P] (AI	[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app		ADEQUATE NADEQUATE	[]
REMARKS: VERNIER THRUSTEF FMEA. IOA RECOM PRIMARY SENSORS	MENDS TH	HEIR INCLUS	SION INTO	A FMEA.	SSED BY A NOTE:
SUBSYSTEM MANAGE VERNIER THRUSTER	ER STATED	THAT THE	SENSORS	WERE PART (SS, IOA RE	OF THE COMMENDS THE

FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1146 03-2F-121	315 -2			DATA: ELINE [NEW [X	
SUBSYSTEM: MDAC ID:	FRCS 1146 OX OR FU			SENSOR,	THRUSTER	S F1D
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICALI FLIGHT HDW/FUN			y screi B	ens C	CIL	
NASA [3 /1R IOA [3 /2R] [P] [P]	[P] [P]	[] *]
COMPARE [/N] [] []	[]	[]
RECOMMENDATIONS:	(If dif	ferent f	rom NAS	SA)		
[/] [] [1	[]	[(ADD/D	
* CIL RETENTION FREMARKS: IOA AGREES WITH N		(If app	licable	≥) ADEQU INADEQU	<u> </u>]

ASSESSME ASSESSME NASA FME	TN	75	_		~~1	7	7 13	15 -	1					SA I	LIN	E	[x]	
SUBSYSTE MDAC ID: ITEM: F2D, F3I		F4 D		FRO 11 OX	A 7	FU	I	NJEC	тоі	₹ 1	EMP	SEN	ısc	OR,	THR	US!	rera	5 F	'1D,
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	Ī											
ASSESSME	ENT	:																	
	CR		CAL				RE	DUND	AN	CY	SCRE	ENS	5				CIL ITE		
	3		JIGHT V/FUI				A			В			С						
NASA IOA	[3	/1R /2R]		[P P]	[P P]	[P P]			[[]	*
COMPARE	[/N]		[]	[]	[]			[]	
RECOMME	NDA	TIC	ons:		(If	d :	ifi	feren	nt	fr	om NA	ASA)						
	[/]		[]	[]	[]	((AC	[D/D		ETE)
* CIL R		NT:	ION :	RAI	TION	AL	E:	(If	ap	pl	icab			DEQU DEQU			[]	
REMARKS	•						_												

IOA AGREES WITH NASA FMEA.

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	E: 1/29/88 FRCS-11 03-2F-1		-2	NASA DA BASELI N	
SUBSYSTEM: MDAC ID: ITEM: F2F, F3F	FRCS 1148			SENSOR, TH	IRUSTERS F1F
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICA FLICA HDW /	SHT	REDUNI	DANCY SCR B		CIL ITEM
•			_	С	•
NASA [3 /: IOA [3 /:		P] P]	[P] [P]	[P] [P]	[] *
COMPARE [/1	1] []	[]	[]	[]
RECOMMENDATIONS	G: (If d	ifferer	nt from N	ASA)	
[/] []	[]	[]	[] (ADD/DELETE
* CIL RETENTION REMARKS: IOA AGREES WITH			applicab:	le) ADEQUAT INADEQUAT	

ASSESSME ASSESSME NASA FME	NT NT A #	DATE: ID: :	1/29/ FRCS- 03-2F	88 1149 -121	315 -	-1			ASA DAT BASELIN NE		
SUBSYSTE MDAC ID: ITEM: F2F, F3F			FRCS 1149 OX OR	FU	INJE(CTOR 1	remp :	SENSC	OR, THE	USTER	S F1F,
LEAD ANA	LYS	т:	D. HA	RTMA	N						
ASSESSME	NT:										
		FLIGH'	ITY T NC			DANCY B	SCRE	ENS C		CIL	
NASA		,]			[P]	[P]	[] *
IOA	Ĭ	3 /2R	j	[P]	[P]	[P]	[]
COMPARE	[/N	1	[]	[]	[]	C]
RECOMMEN	DAT	cions:	(If	dif	fere	nt fr	om NA	SA)			
	[/]	[]	[]	[]	[(ADD/D] ELETE)
* CIL RE		ITION	RATION	ALE:	(If	appl	icabl	A)	DEQUATI DEQUATI	E []
IOA AGRE		WITH	NASA F	MEA.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1150	15 -2	NASA DATA: BASELINE [] NEW [X]					
MDAC ID:	FRCS 1150 OX OR FU I	NJECTOR TEMP	SENSOR, THRU	STERS F1L				
LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
CRITICALI FLIGHT HDW/FUN	ľ	DUNDANCY SCRE	ENS C	CIL ITEM				
NASA [3 /1R IOA [3 /2R] [P]] [P]] [P]	[P] [P]	[] *				
COMPARE [/N	1 [] []	[]	[]				
RECOMMENDATIONS:	(If diffe	erent from NA	SA)					
[/] [] []	[] (A)	[.DD/DELETE				
* CIL RETENTION FREMARKS: IOA AGREES WITH N		(If applicable	e) ADEQUATE INADEQUATE	[]				

ASSESSMENT ASSESSMENT NASA FMEA	r I	D:	•	FR	75-1	15	1 13	15 - 3	l.				_		DATA LINE NEW	[
SUBSYSTEM MDAC ID: ITEM: F3L, F2R,		IR		FRO 11! OX		FU	I	njec	гоі	R T	EMP S	EN	so	R,	THRU	ISTE	RS I	71L,
LEAD ANAL	YSI	r:		D.	HAR	TM	ΙAΝ	Ī										
ASSESSMEN	T:																	
C			CALI				RE	DUND	AN	CY	SCRE	ENS	3				L PEM	
			IGHT /FUN				A			В			С					
NASA IOA	[3 3	/1R /2R]		[P P]	[[P P]	[P P]		[]	*
COMPARE	[/N]		[]	[]	[]		[]	
RECOMMEN	TAC	ΊC	ns:		(If	d.	if:	ferer	nt	fr	om NA	SA)					
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* CIL RET	ΓEN	T	ON	RAT	CION	ΑL	E:	(If	aŗ	pl	icabl				UATE UATE]	Í
REMARKS:	ES	W]	ITH	NA	SA F	ME	Α.											

ASSESSMI ASSESSMI NASA FMI	ENT I	D:	FRCS-	88 1152 -121	? 1315 –	·2			NASA BASI	ELINE		
SUBSYSTE MDAC ID: ITEM: F2U, F3U			FRCS 1152 OX OR	FU	INJEC	TOR	TEMP	SEI	NSOR,	THRU	STER	s Flu,
LEAD ANA	LYST	:	D. HA	RTMA	N							
ASSESSME	NT:											
		CALI LIGHT I/FUN	?	R A	EDUND	ANCY B		ENS	S C		CIL	
NASA IOA	[3	/1R /2R]	[P]	[P]	[P] P]		[] *
COMPARE	[/N]	[]	[]	C]		[]
RECOMMEN	DATIO	NS:	(If	dif:	ferent	fro	om NA	SA)				
	[/]]]	ĺ]	[]	(AI	[DD/DE] ELETE)
* CIL RET	PENTI	on r	ATIONA	LE:	(If a	ppli	cable	e)				·
REMARKS: IOA AGREI									ADEQU <i>I</i> ADEQU <i>I</i>		[]

ASSESSME ASSESSME NASA FME	NT I	D:	1/29/8 FRCS-1 03-2F-	152	:15 -	1				TA: NE [EW [X	
SUBSYSTE MDAC ID: ITEM: F2U, F3U			FRCS 1153 OX OR	FU I	NJEC	TOR T	remp s	ENS	OR, TH	RUSTER	s F1U,
LEAD ANA	LYSI	r:	D. HAI	RTMAN	1						
ASSESSME	NT:										
	1	ricali FLIGHT	r	RI A	EDUNE	ANCY B	SCREE	ENS C		CIL	
		DW/FUI				-					
NASA IOA	[:	3 /1R 3 /2R]	[P]	[P]	[P]	[] *
COMPARE	[/N]	[]	[]	[]	[]
RECOMMEN	IDAT:	ions:	(If	dif	ferer	nt fr	om NAS	SA)			
	[/]	[]	C]	[]	[(ADD/D] ELETE)
* CIL RI		TION 1	RATION	ALE:	(If	appl	icable	A.	DEQUAT DEQUAT	-]
REMARKS	•										

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:		FRCS-1154 BASELIN								
SUBSYSTEM: MDAC ID: ITEM: F5R	FRCS 1154 OX OR FU INJEC	154 X OR FU INJECTOR TEMP SENSOR, THRU								
LEAD ANALYST:	D. HARTMAN									
ASSESSMENT:										
CRITICA FLIG		DANCY SCREENS	CIL ITEM							
	UNC A	A B C								
NASA [/ IOA [3 /2	R] [P]	[] [] [P]	[] *							
COMPARE [N /N] [N]	[N] [N]	[]							
RECOMMENDATIONS	: (If differen	at from NASA)								
[3 /2	R] [P]	[F] [P]	[A] (ADD/DELETE)							
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATI	E []							
REMARKS:		INADEQUATI								
VERNIER THRUSTE FMEA. IOA RECO	MMENDS THEIR INC	PERATURE SENSORS NOT LUSION INTO A FMEA. -2F-121315-2 FMEA.	ADDRESSED BY A NOTE:							

SUBSYSTEM MANAGER STATED THAT THE SENSORS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THE FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1155 NONE		DATA: ELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM: F5R	FRCS 1155 OX OR FU INJ	ECTOR TEMP SENSOR	THRUSTERS F5L,
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL	LITY REDU	NDANCY SCREENS	CIL ITEM
FLIGH HDW/FU		в с	T 1 200
. nuw/r	,,,,,		r] *
NASA [/ IOA [3 /2]] [] R] [P]	[] [P]	[] *
COMPARE [N /N] [N]	[и] [и]	[]
RECOMMENDATIONS	: (If differ	cent from NASA)	
[3 /2	R] [P]	[F] [P]	[A] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (1101	EQUATE []
		EMPERATURE SENSORS INCLUSION INTO A 1 03-2F-121315-1 FI	S NOT ADDRESSED BY A FMEA. NOTE: MEA.

SUBSYSTEM MANAGER STATED THAT THE SENSORS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THE FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI ASSESSMI NASA FMI	ENT	Ι	D:	F	'RCS-	-11	.56	; :15 ·	-1					N	IASA BASI	ELI	NE] []	
SUBSYSTI MDAC ID: ITEM:				1	RCS 156 RIVE	R,	Н	YBR	ID									•	-	
LEAD ANA	LY	ST	:	D	. на	RT	MA	N												
ASSESSME	ENT	:																		
		F	ICAL LIGH	T			R	EDUN	ND#	MC	Y	SCR	EEN	s				CIL ITE		
	ŀ	IDI	W/FU	NC			A				В			C			•	L 1 12.	M	
NASA IOA	[3	/2R /2R]		[P P]		[P P]]	P P]			[]	*
COMPARE	[/]		[]		[]	[3			[]	
RECOMMEN	DAT	'IC	ons:		(If	đi	fı	ere	nt	f	ro	m N	ASA)							
	[/]		[]		[]	[]	(] ADE)/DE] ELE	TE
* CIL RE	ren	TI	ON F	ras	IONA	LE	:	(If	a j	pp]	li	cab]		ΑD	EQU2	ATE	<u>[</u>]	
REMARKS:) EN	ĊΤ.											714	AL.	'EQUI	7 T.E.	L		J	

ASSESSMENT ASSESSMENT NASA FMEA	ID:	FRCS-11		5 -2				_	SA DATA: ASELINE NEW]		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 1157 DRIVER,	нч	BRID									
LEAD ANALY	ST:	D. HARTI	MAN										
ASSESSMENT	:												
CRITICALITY REDUNDANCY SCREENS CIL ITEM													
	HDW/FU		A		В			С		1111	•		
NASA [IOA [3 /3 3 /2R] [] [P] [P]	[P]	[] *]		
COMPARE [/N] [N] [N]	[N]	(1		
RECOMMENDA	TIONS:	(If d	iff	erent	fr	om N	IASA)						
[3 /2R) [P] [P]	[P] (A	[DD/D] ELETE)		
* CIL RETE	INTION :	RATIONAL	E:	(If ap	pl	icak			EQUATE	[]		
REMARKS: INABILITY DUE TO ORE	TO TUR	N HEATER OINTING	OF DEF	FF MAY EP SPAC	CA E	USE FOR	LOSS	S (OF MISSI NG.	ON O	BJECTIVES		

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1158			NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1158 DRIVER, H	HYBRID			
LEAD ANALYST:	D. HARTMA	AN			
ASSESSMENT:					
CRITICAL: FLIGHT	_	REDUNDAN	CY SCRE	ENS	CIL ITEM
HDW/FU	NC A	4	В	С	
NASA [3 /2R IOA [3 /2R] [F	?][P] P]	[P] [P]	[] *
COMPARE [/] [] []	[]	[]
RECOMMENDATIONS:	(If dif	fferent :	from NA	SA)	
[/] [] []		[] ADD/DELETE
* CIL RETENTION FREMARKS: NO DIFFERENCES.	RATIONALE:	(If app	plicabl	e) ADEQUATE INADEQUATE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-115	9 215 - 2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1159 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTN	1AN			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREEN	S	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [P]	[] *
COMPARE [/N] [N] [и] [N]	[]
RECOMMENDATIONS:	(If d	ifferent f	rom NASA	7)	
[3 /2F	١ [P] [P] [[P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app		ADEQUATE NADEQUATE	[]
REMARKS: INABILITY TO TU DUE TO ORBITER	RN HEATEF POINTING	OFF MAY.	CAUSE LOS E FOR CO	SS OF MISSI OLING.	ON OBJECTIVES
ISSUE NOT RESOL	VED AT TE	HE MEETING	WITH TH	E SUBSYSTEM	MANAGER ON

1/20/88.

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SUBSYST: MDAC ID ITEM:	EM:			F1	RCS 160 RIVE												•		
LEAD AND	ALY	ST	:	D.	. HAI	RT:	MA	N											
ASSESSMI	ENT	:																	
	CR		ICAL LIGH		?		R	EDU	JNDA	MC	CY	sc	REEN	s			CI	_	
	1		W/FU		A				В			C			IT:	EM			
NASA IOA	[[3 3	/2R /2R]]	P P]]	P P]]	P P]		[]	*
COMPARE	[/]		ĺ]		[]	[]		[]	
RECOMMEN	DA:	ric	ONS:		(If	di	fí	er	ent	f	rc	m]	NASA j)					
	[/]		[J		[]	[]	(AD	[D/[ETE J
* CIL RE	TEN	ľŢĮ	ои в	TAS	IONA	LE	:	(I	f a	pp	li	cal			EQUAT		[]	
REMARKS: NO DIFFE	REN	CE	s.										11	IAL	EQUAT	Ľ	Ī]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1161 05-6KF-22	15 -2		NASA DATA: BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1161 DRIVER, H	IYBRID				
LEAD ANALYST:	D. HARTMA	M				
ASSESSMENT:						
CRITICAL		REDUNDAN	CY SCREEN	is	CIL ITEM	1
FLIGH HDW/FU		A	В	С		
NASA [3 /3 IOA [3 /2F] [] [P] [P]	[] [P]	[] *]
COMPARE [/N	j [1	N] [[N]	[и]	ĺ]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)		
[3 /2]	e] []	P] [[P]	[P] (A	[.D D /D] ELETE)
* CIL RETENTION	RATIONALE	: (If an	pplicable) ADEQUATE INADEQUATE]
REMARKS:	ON UPAMPD	OFF MAV	CAUSE LO	SS OF MISSI	ON O	BJECTIVE

INABILITY TO TURN HEATER OFF MAY CAUSE LOSS OF MISSION OBJECTIVES DUE TO ORBITER POINTING DEEP SPACE FOR COOLING.

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSM ASSESSM NASA FM	ENT	'I	D:		F	RCS-	-11	62	15	-1								SEL	ATA INI NEV		x]	
SUBSYST					11	RCS L62 RIVE	R,	н	YB	RID													
LEAD AN	ALY	ST	:		D.	НА	RT	MA	N														
ASSESSMI	ENT	:																					
		F	LI	GH:		?			EDŪ	UNDA	ANO		sc	CREE	NS	5				C]	IL PEM		
		HD	W/]	rui	4C			A				В				C							
NASA IOA	[3	12	2R 2R]		[P P]		[P P]		[[P P]			[]	*
COMPARE	[/]		[]		[]		[]			[]	
RECOMMEN	DA'	ric	ONS	S:		(If	đ	ifi	fer	ent	: f	rc	m	NAS	A)								
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* CIL RE	TEN	TI	CON	R	AT:	IONA	LE	Ξ:	(I	fa	pp	li	cal	ble)									
DEMINIC]				TAU TAU		[[] !	
REMARKS: NO DIFFE	REN	ICE	ES.														-	_	-		_	ı	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-116	3 215 - 2	1	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1163 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDANC	Y SCREENS		CIL
HDW/FU	_	A	В	С	
NASA [3 /3 IOA [3 /2R] [P] [] [P] [] P]	[] *
COMPARE [/N] [и] [и] [!	N]	[]
RECOMMENDATIONS:	(If di	fferent f	rom NASA)		
[3 /2R] [P] [P] [P]	[] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If app		ADEQUATE ADEQUATE	
REMARKS: INABILITY TO TUR DUE TO ORBITER P					ON OBJECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	NT	ID:	FR	29/88 CS-11 -6KF-	64	15 -	-1					ASA DA BASELI N		[x]	
SUBSYSTE MDAC ID:	M:		FRO 110 DR		H	YBRI	.D										
LEAD ANA	LYS	T:	D.	HART	MA	N											
ASSESSME	NT:																
		TICAL FLIGH			R	EDUN	IDAN O	Y	SCI	REEN	S			CI		,	
		DW/FU	_		A			В			С			11	EM	L	
NASA IOA	[3 /2R 3 /2R]]	P P]]	P P]	[P P]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT	ions:	((If d	if	fere	nt f	r	om N	IASA)						
	[/]	[]	£]	ſ		1	(AI	[DD/	DE] LE	TE
* CIL RE	TEN'	TION	RATI	CONAL	E:	(If	app	1 i	icak	•		DEQUAT DEQUAT		[]	

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT I	D:	FRCS-	116	5 21	.5 -2						SA D SASEI		[]	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1165 DRIVE	R,	нч	BRID)									
LEAD ANA	LYST	:	D. HA	RTM	AN	ī										
ASSESSME	NT:															
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C																
FLIGHT																
NASA IOA	[3	/3 /2R]]	P]	[[P]]	P]		[]	*
COMPARE	[/N]	[N]	[N]	[N]		[]	
RECOMMEN	DATI	ons:	(If	đi	fi	feren	nt :	fro	om :	nasa))					
	[3	/2R	1	[P	1	[P] .	[P)	(A)	[DD/[CTE)
* CIL RE	TENT	ION	RATION	IALI	Ξ:	(If	ap	pl:	ica		Al IAN	DEQUA	ATE ATE	[]	
REMARKS: INABILIT DUE TO C	Y TO	TUR ER F	N HEAT	rer 1g i	01 0E1	FF MA	AY (CAI E	USE FOR	LOS	S (OF M	ISSI	ON C	BJE	ECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	ENT	II	D:	F	/29/ RCS- 5-6K	11	66	15 -	1				1		DATA SELINE NEW	[]	
SUBSYSTE MDAC ID:				1	RCS 166 RIVE	R,	H	YBRI	D										
LEAD ANA	LYS	T:	:	D	. HA	RT	MAI	N											
ASSESSME	ENT:	:																	
		FI	CAL LIGH V/FU	T	ť		RI A	EDUN	DAI	ICY B		REE		c		CI	LEM	Ī	
NASA IOA	[3	/2R /2R]		[P P]	[P]		[]	P]		[]	*
COMPARE	[/]		[]	[]		[]		[]	
RECOMMEN	DAT	'IC	ons:		(If	d :	if	fere	nt	fr	om :	NAS	A)						
	[/]		[] .	(]		C]	(A	[DD/	DE] LE	TE)
* CIL RE	TEN	TI	ON	RAT	NOIT	ALI	Ξ:	(If	aŗ	pl	ica		7		UATE UATE	[]	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-116	FRCS-1167 05-6KF-2215 -2 NEW [
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1167 DRIVER,	HYBRID									
LEAD ANALYST:	D. HARTM	IAN									
ASSESSMENT:											
CRITICAL		REDUNDANC	CY SCREEN	S	CIL ITEM						
FLIGH HDW/FU		A	В	С							
NASA [3 /3 IOA [3 /2R] [p] [] [P] [P]	[] *						
COMPARE [/N	_		и] [[и]	[]						
RECOMMENDATIONS:	(If d	ifferent :	from NASA	A)							
[3 /2F	?] [P] [P]	[P] (A	[] ADD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If ap) ADEQUATE INADEQUATE	[]						
REMARKS: INABILITY TO TUI DUE TO ORBITER	RN HEATER POINTING	OFF MAY DEEP SPAC	CAUSE LOS	SS OF MISSI OLING.	ON OBJECTIVE	ES					

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSM	ENT	'I	D:	: 1/29/88 NASA D FRCS-1168 BASEL 05-6KF-2215 -1								INE	[] X]					
SUBSYST MDAC ID ITEM:				11	RCS L68 RIVE	R,	н	YB:	RID										
LEAD AN	ALY	ST	:	D.	HA	RT	MA	N											
ASSESSMI	ENT	:																	
		F	ICAL LIGH	T			R	EDI	JNDA	NC	Y	SC	REEN	S			CI:	_	
	1	HD	W/FU	NC			A				В			C			111	EM.	
NASA IOA	[3	/2R /2R]		[P P]		[[P P]	[P P]		[]	*
COMPARE	[/]		[]		[]	ι]		ξ]	
RECOMMEN	DA'	CIC	ONS:		(If	đi	ifi	fer	ent	f	ro	m l	NASA))					
	[/]		[]		[]	[]	(AI	[DD/E] DELE	TE
* CIL RE	TEN	ITI	ON I	TAS	IONA	LE	E :	(I	fap	gp.	li	cak	ole)						
															EQUAT EQUAT		[]	
REMARKS: NO DIFFE	REN	ICE	s.												-2011		L	1	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-116 05-6KF-2	9 215 - 2	NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1169 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREEN	S	CIL TTEM
FLIGH HDW/FU	11211				
NASA [3 /3 IOA [3 /2]] [] [P] [] [P] [P]	[] *
COMPARE [/N] [и][и] [и]	[]
RECOMMENDATIONS	(If d	ifferent i	from NASA	۷)	
[3 /2	R] [P] [P] ([P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap) ADEQUATE INADEQUATE	[]
REMARKS: INABILITY TO TU DUE TO ORBITER	RN HEATER POINTING	OFF MAY DEEP SPAC	CAUSE LOS E FOR CO	SS OF MISSI	ON OBJECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D I #:	ATE: D:	1, F: 0.	1/29/88 FRCS-1170 05-6KF-2215 -1							NASA DATA: BASELINE [] NEW [X]								
SUBSYSTI MDAC ID: ITEM:	EM:			F)	RCS 170 RIVE														-	
LEAD ANA	LY	ST	:	D.	. на	RT	MA	N												
ASSESSME	NT:	:																		
	CR		ICAL LIGH		<u>r</u>		R	EDU	JNDA	N	CY	sc	REEN	IS				CIL	u r	
	ŀ	IDI	/FU	NC			A				В			С			•	ITE	71	
NASA IOA	[[3	/2R /2R]]	P P]		[P P]	[P P]		ĺ	[]	*
COMPARE	[/]		[]		[]	ι]		1	[]	
RECOMMEN	DAI	'IC	NS:		(If	đ:	ifi	fer	ent	f	ro	m	NASA)						
	[/)		[]		[]	[]	(/ D/DE] LE	TE
* CIL RE	ren	TI	ON F	TAS	IONA	ALE	E :	(I	f a	pp	li	cal				JATE JATE]	
REMARKS: NO DIFFE	REN	CE	s.													_	L			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1171	NASA DATA: 11 BASELINE [] 2215 -2 NEW [X]										
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1171 DRIVER, I	HYBRID										
LEAD ANALYST:	D. HARTM	AN										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C												
HDW/FU	С											
NASA [3 /3 IOA [3 /2R] [] [P] [[] *									
COMPARE [/N] []	и] [и][и]	[]							
RECOMMENDATIONS:	(If di	fferent f	rom NASA)									
[3 /2R	[P] [P] [P] (Al	[] OD/DELETE)							
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []												
REMARKS: INABILITY TO TURN HEATER OFF MAY CAUSE LOSS OF MISSION OBJECTIVES DUE TO ORBITER POINTING DEEP SPACE FOR COOLING.												

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1172 DRIVER, HYBRI	D							
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICALI FLIGHT		DANCY SCREENS	}	CIL ITEM					
HDW/FUN	IC A	В	С						
NASA [3 /2R IOA [3 /2R] [P]] [P]	[P] [[P]	P] P]	[] *					
COMPARE [/] []	[3168H] []	[]					
RECOMMENDATIONS:	(If differe	nt from NASA)							
1] []	[] [[] DD/DELETE)					
* CIL RETENTION F	RATIONALE: (If		ADEQUATE ADEQUATE	[]					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1173 05-6KF-2215 -2	[x]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1173 DRIVER, HYBRID		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL		NCY SCREENS	CIL ITEM
FLIGH HDW/FU		ВС	
NASA [3 /3 IOA [3 /2R	[] [P]	[] [] [P] [P]	[] *
COMPARE [/N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If different	t from NASA)	
[3 /2	R] [P]	[P] [P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATE INADEQUATE	[]

INABILITY TO TURN HEATER OFF MAY CAUSE LOSS OF MISSION OBJECTIVES REMARKS: DUE TO ORBITER POINTING DEEP SPACE FOR COOLING.

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

					1/29/88 FRCS-1174 05-6KF-2215 -1							NASA DATA: BASELINE [] NEW [X]							
SUBSYST MDAC ID ITEM:	EM:			F. 1	RCS 174 RIVE											•		,	
LEAD AN	ALY	ST	:	D	. на	RT	MA	N											
ASSESSM	ENT	:																	
	CR		ICAI LIGH		Y		R	EDU	JNDA	NCY	S	CREEN	s				IL		
			W/FU				A			E	3		С			Ι	TEM		
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COMPARE	[/]		ĺ		J	[)	[]		[]	
RECOMMEN	IDA'	ric	ons:		(If	đ	ifí	fer	ent	fr	om	NASA)						
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NO DIFFE	REN	ICE	s.														_		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1175 05-6KF-2215	-2	NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1175 DRIVER, HYBR	RID		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL FLIGH		JNDANCY SCREENS	S	CIL
HDW/FU		В	С	
NASA [3 /3 IOA [3 /2R] []]	[] [[P] [P]	[] *
COMPARE [/N] [N]	[N] [N]	[]
RECOMMENDATIONS:	(If differ	rent from NASA)	
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* CIL RETENTION	RATIONALE: (ADEQUATE NADEQUATE	[]
REMARKS: INABILITY&a1290F DUE TO ORBITER F	WOHEATER OFF COINTING DEEP	MAY CAUSE LOS SPACE FOR COO	S OF MISSIC	ON OBJECTIVES

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1176 NASA FMEA #: 05-6KF-2215 -1												ASA DA BASELI N	NE		x]	
SUBSYSTE MDAC ID: ITEM:			FRCS 1176 DRIVE													
LEAD ANA	LYS	T:	D. HA	RTI	AN	N										
ASSESSME	NT:															
		TICAL: FLIGHT	r		RI A		DANC	CY B	SCI	REEN	s c			CII		
NASA IOA		-]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	DAT	ions:	(If	đi	fi	fere	nt f	ro	om N	IASA))					
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* CIL RE	TEN'	TION F	RATION	ALE	:	(If	app	11	cab			EQUATI]]	

ASSESSME	SSESSMENT DATE: 1/29/88 SSESSMENT ID: FRCS-1177 ASA FMEA #: 05-6KF-2215 -2												ATA: LINE NEW	[x]		
SUBSYSTEM MDAC ID:			FRCS 1177 DRIV		нч	BRI	D										
LEAD ANA	LYST	:	р. н	ARTM	AN												
ASSESSME	NT:																
			ITY		RE	DUN	DANC	Y	SC	REENS	3			CI	L EM		
	_	LIGH W/FU			A			В			С						
NASA IOA	[3	/3 /2R]	[[P]	[P]]	P]		[]	*	
COMPARE	£	/N)	[N]	[N]	[N]		[]		
RECOMMEN	DATI	ons:	(I	f di	.ff	ere	ent i	fr	om i	nasa))						
	[3	/2R]	[P]	[P]	[P]	(A		DEL	ETE)	
* CIL RE	TENT	NOI	RATIC	NALE	E:	(If	f apı	, 1	ica			DEQUA		[]		
REMARKS: INABILIT DUE TO O										LOS			ISSI	ON	OBJ	ECTIVE	s

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	NT	ID:	FRC	s-11		5 -1				NASA D BASEL	INE		
SUBSYSTE MDAC ID:			FRC 117 DRI		нұі	BRID							
LEAD ANA	LYS	T:	D. 3	HARTI	NAN								
ASSESSME	NT:												
		TICAL:			REI	DUND	ANCY	SCR	EENS			CII	
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COMPARE	[/]	[1	[]	[3		[]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1179		NASA DATA: BASELINE (NEW (
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1179 DRIVER, HYBE	RID		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL		INDANCY SCREENS		CIL ITEM
FLIGH HDW/FU		В	c	
NASA [3 /3 IOA [3 /2R] []] [P]	[] [[P]] P]	[] *
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RECOMMENDATIONS:	(If diffe:	rent from NASA)		
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* CIL RETENTION	RATIONALE: (ADEQUATE ADEQUATE	[]
REMARKS: INABILITY TO TUR DUE TO ORBITER P	RN HEATER OFF POINTING DEEP	MAY CAUSE LOSS SPACE FOR COOL	OF MISSIO	N OBJECTIVES
ISSUE NOT RESOLV	ED AT THE ME	ETING WITH THE	SUBSYSTEM	MANAGER ON

1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1180 NASA FMEA #: 05-6KF-20								13	-1						ASA DA BASEL:		[x]	
SUBSYSTI MDAC ID ITEM:				11	RCS 180 JSE,	2	0 A													
LEAD AND	ALY	ST	:	D.	HA	RT	MA:	N												
ASSESSMI	ASSESSMENT:																			
	CRITICALITY FLIGHT HDW/FUNC								JNDA	ANO	CY	SCI	REEN	s			CI TT	L EM	•	
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NASA IOA	[3	/2F /2F	₹] ₹]		[P P]		[P P]	[P P]		[]	*
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RECOMMEN	IDA!	ΓΙ	ONS:		(If	d:	if	fer	ent	: f	fro	om 1	NASA))						
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* CIL RE REMARKS: NO DIFFE				RAT	IONA	ALF	€:	(1	∷f a	pp)li	cak	•		DEQUAT DEQUAT		[]	

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1181 NASA FMEA #: 05-6KF-2013 - SUBSYSTEM: FRCS								-1							DAT ELIN NE	E		_		
SUBSYSTE MDAC ID: ITEM:	M:			11		20	λ													
LEAD ANA	LYS	ST	:	D.	HAI	RTI	(A)	1												
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS																				
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FLIGHT HDW/FUNC A										:	В			С						
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COMPARE	[/]		[]		[]	[]			[]	
RECOMMEN	'DA'	ri(ons:	:	(If	d :	if	fer	ent	: f	ro	om l	NASA)						
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REMARKS:		NC:	ES.																	

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SUBSYSTEM MDAC ID:			FRCS 1182 FUSE,	202	A						
LEAD ANA	LYS	r:	D. HA	RTM	AN						
ASSESSME	NT:										
(1	FICALI FLIGHT DW/FUR	r	1		DANCY P		REENS		CII	
			•	_	_	_					
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ASSESSME	SSESSMENT DATE: 1/29/ SSESSMENT ID: FRCS- ASA FMEA #: 05-6F														DATA LINI NEV	E	[X]	
SUBSYSTEMDAC ID:	M:			11		20	Α												
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	Ī											
ASSESSME	NT:	;																	
	CRI		CAL				RE	DUNE	AN	ICY	SCR	EEN	s				CIL ITEN	4	
	ŀ		LIGH' V/FUI				A			В			С						
NASA IOA	[3	/2R /2R]		[P P]	(P]]	P P]			[]	*
COMPARE	ſ		/]		[]	-]	[]			[]	
RECOMMEN	IDA'	TI	ons:		(If	đ	if:	fere	nt	fr	om N	NASA	.)						
	[/]		[]		[]	(]	((AI	[DD/D	ELI	ETE)
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REMARKS	:																		

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SUBSYST MDAC ID ITEM:				1:	RCS 184 JSE,	2	0A									•	•	
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1185 FUSE,	20A										
LEAD ANALYST:	D. HA	RTMAN	Ī									
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS												
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ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1186 NASA FMEA #: 05-6KF-2013 -									-1						ASA DA BASELI N		[x]	
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	FRCS 1189 FUSE, 1	.А							
LEAD ANALYST:	D. HART	MAM							
ASSESSMENT:									
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	1/29/88 FRCS-1191 05-6KF-20			NASA DAT BASELIN NI	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1191 FUSE, 1A				
LEAD ANALYST:	D. HARTMA	Ŋ			
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRI	EENS	CIL ITEM
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REMARKS: NO DIFFERENCES. AMP FUSES BUT SO	NOTE: SI	PACE S	HUTTLE S' 2099 SHO	YSTEMS HAND WS 1 AMP FU	BOOK SHOWS 3

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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1192 FUSE, 7.9	5 A										
LEAD ANALYST:	D. HARTM	AN										
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FRCS 1194 FUSE, 7.5A							
D. HARTMAN							
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ASSESSME	NT:	:																		
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1196	7.5A									
LEAD ANALYST:	D. H2	ARTMAN									
ASSESSMENT:											
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SUBSYSTEMDAC ID:	M:		FRCS 1197 HEATE	R 90	OW, A	& B	OX LW	R HT	R PNL 3						
LEAD ANA	LYST:	:	D. HA	RTM	AN										
ASSESSME	NT:														
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SUBSYSTEM: MDAC ID: ITEM:	FRCS 1199 HEATER 90V	V, A & B (OX LWR I	HTR PNL 1						
LEAD ANALYST:	D. HARTMAN	1								
ASSESSMENT:										
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ASSESSMEN NASA FME	NT :	ID:	FRCS-	120	BASELINI NEV]					
SUBSYSTEM MDAC ID:			FRCS 1201 HEATE	R 9	R PNL 4						
LEAD ANA	LYS'	T:	D. HA	RTM	AN						
ASSESSME	NT:										
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		340 -2	NASA DATA: BASELINE [] -2 NEW [X]								
	FRCS 1202 HEATER 90	W, A &	B OX FWI	O HTR PNL 4							
LEAD ANALYST:	D. HARTMAI	N									
ASSESSMENT:											
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LEAD ANA	LYST	:	D. HAI	RTM	AN								
ASSESSME	NT:												
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ASSESSMEN								BASELIN	E]
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SUBSYSTEM MDAC ID:	:	FRCS 1204 HEATER	R 901	W, A	& B	OX LW	R HI	R PNL 2		- ,
LEAD ANAL	YST:	D. HAF	RTMA	N						
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LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
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LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
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LEAD ANALYST:	D. HARTMAN				
ASSESSMENT:					
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

(SHORT FAILURE MODE TO BE REMOVED).

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LEAD ANALYST:	D. HARTM	IAN							
ASSESSMENT:									
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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88 (SHORT FAILURE MODE TO BE REMOVED).

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SUBSYSTEM: MDAC ID: ITEM:	•		FRCS 1243 RESIS	ror,	5.1K	1/41	W					
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NO DIFFERENCES.

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ISSUE RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88

(SHORT FAILURE MODE TO BE REMOVED).

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1248		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1248 SWITCH, TOGGLE	RCS/OMS HI	EATERS FWD	RCS
LEAD ANALYST:				
ASSESSMENT:				
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REMARKS: FORWARD IOA. SI	MA EE	NI AS	FOL:	D 1 J SMENT	ETS HE	EATER	CON X-11	TROL 164X	SWIT	CH 14	RE-	-ANA	LYZ	ED BY

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SUBSYST MDAC ID ITEM: CONTACT:	:		2	FRO 125 MAN	52	1,	JETS :	HEAT!	ER CC	NTROL S	WITCH	ON
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FORWARD I	MAN E A	IIF SS	OLD	1 JE MENT	TS HEA	ATER	CONT	ROL S	SWITC	H 14 RE	-ANAL	YZED BY

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SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	FRCS 1253 MANIFOLD	1, JETS F	HEATER C	ONTROL SWIT	rch on
LEAD ANALYST:					
ASSESSMENT:					
CRITICA FLIG		REDUNDANCY	SCREEN	s	CIL ITEM
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SUBSYST MDAC ID ITEM: CONTACT:	:			FRCS 1254 MANI	<u>.</u>	1, J	ETS H	EATE	ER COI	NTROL SW	ITCH	OFF
LEAD AN	ALY	ST	:									
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LEAD ANA	LYS	T:												
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LEAD ANA	LY	ST	:									
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SUBSYST MDAC ID ITEM:				FRCS 1258 MANIF	OLI	D :	2, J	ETS	н	EATE	R C	'MC	TROL SW	итсн		
LEAD AN	ALY	ST	:													
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	CR		ICAL: LIGH:	ITY r		RI	EDUN	DAN	CY	SCR	EENS	3		CI IT		
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IOA. SI	EE A	AS:	SESSN	MENT II)s	11	1652	X-1	110	59X.						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1259					ASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1259 MANIFOLD	2, JEI	s HE	EATER	CONT	ROL SWI	гсн	
LEAD ANALYST:								
ASSESSMENT:								
CRITICAL		EDUND#	MCY	SCREE	ns		CIL ITEN	Л
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REMARKS: FORWARD MANIFOLI IOA. SEE ASSESS) 2 JETS HE SMENT IDS 1	ATER 1165X	CONT	ROL SI	WITC	H 15 RE-	ANAL	YZED BY

ASSESSMI ASSESSMI NASA FMI	ENT	I			S-126	0			ì	NASA DAT BASELIN NI		:]]
SUBSYSTE MDAC ID: ITEM: CONTACTS	3 1,	, :	2	FRC: 126 MAN	0	2, 3	JETS H	EAT:	ER CON	TROL SW	/ITC	I OI	1
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ASSESSME	N.T.	•											
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COMPARE	[N	/N]	[]	£]	[]	[n j	
RECOMMEN	DAI	'IC	ons:	: (1	f dif	fere	nt fr	om 1	IASA)				
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SUBSYSTEI MDAC ID: ITEM: CONTACTS		2	FRCS 1261 MANIF	OLI) 2	2, JI	ets	н	EATE	ER CO	ONT	rrol	SWI	гсн	. 0	N	
LEAD ANA	LYST	:															
ASSESSME	NT:																
(F	ICALI LIGHT			RE A	EDUNI	OANC	Y B	SCR	REEN	s c			CI			
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NASA IOA	[3	/ /1R]	[P]	[[F]	[[P]		[x] *	
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IOA. SEE ASSESSMENT IDS 11165X-11169X.

ASSESSMENT DATE:				N	ASA DATA	.:	
ASSESSMENT ID: NASA FMEA #:	FRCS-1262				BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 3, 4	FRCS 1262 MANIFOLD	2, JETS	HEATE	R CON	TROL SWI	тсн	OFF
LEAD ANALYST:							
ASSESSMENT:							
CRITICAL FLIGH		EDUNDAN	CY SCR	EENS		CIL	
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COMPARE [N /N] [] []	[]	[1
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FORWARD MANIFOLD IOA. SEE ASSESS				SWITC	H 15 RE-	ANAL	YZED BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1263				DATA: SELINE NEW		
MDAC ID:	FRCS 1263 MANIFOLD 2	2, JETS	HEATER	CONTRO	OL SWIT	CH OFF	
LEAD ANALYST:							
ASSESSMENT:							
CRITICAL: FLIGH		EDUNDANC	CY SCREI	ens		CIL ITEM	
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RECOMMENDATIONS:	(If dif	ferent i	from NAS	SA)			
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* CIL RETENTION	RATIONALE:	(If app	plicable	e)	NI A ME	r 1	
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REMARKS: FORWARD MANIFOLD IOA. SEE ASSESS				WITCH :	15 RE-A	NALYZED) BY

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SUBSYST: MDAC ID ITEM:				FRCS 1264 SWITC	н,	T	OGGLE	E F	cs	/ON	MS H	ΙΕ	AT:	ERS	FWD	RCS	JET 2	
LEAD AN	ALY	ST	:															
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COMPARE	[N	/N]	[N]	(N]		[N]		[]	
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REMARKS: FORWARD IOA. SI	MA			2 JET:							SW							3 Y

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-12	265				ASA DA BASELI N	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1265 SWITCH	, TOGG	LE RCS	o m s	HEAT!	ers fv	ND RCS JET 2
LEAD ANALYST:							
ASSESSMENT:							
CRITICA		REDU	NDANCY	SCR	EENS		CIL ITEM
FLIG HDW/F		A	E	3	С		
NASA [/ IOA [2 /2]	[]	[]	[[]	[x] *
COMPARE [N /		[]	ĺ]	[1	[N]
RECOMMENDATIONS	s: (If	differ	ent f	com N	IASA)		
[/		[]	[]	[]	[] (ADD/DELETE)
* CIL RETENTIO	N RATION	ALE: ([f app	licak	-	ADEQU <i>I</i> ADEQU <i>I</i>	
REMARKS: FORWARD MANIFO IOA. SEE ASSE	LD 2 JET SSMENT I	S HEAT Ds 111	ER CON 65X-11	TROL 169X	SWIT	CH 15	RE-ANALYZED BY

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SUBSYST MDAC ID ITEM:		•		FRCS 1266 MANII	FOI	ďD	3,	JET:	5 F	· EAT	ER C	ON	TRO	L SW	'ITCH	[
LEAD AN	ALY	SI	: :														
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		F	LIGH			R	EDU	NDAI	ICY	SC:	REEN	s			CI: IT:	_	
		HD	W/FU	NC		A			В	}		C			11.	CM	
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REMARKS:											IN	AD	EQU	ATE ATE	j]	
FORWARD IOA. SE	MAN E A	IIF SS	OLD ESSM	3 JETS ENT ID	H S	EA	TER 170	CON	TF	ROL	SWIT	СН	16	RE-	ANAL	YZEI	э ву

ASSESSMI ASSESSMI NASA FMI	ENT	II		FRCS-1	.267				N	IASA I BASEI		[]
SUBSYSTIMDAC ID:				FRCS 1267 MANIFO	DLD 3	s, JET	гѕ ні	EATER	CON	ITROL	SWIT	сн	
LEAD AND	ALY	ST	;										
ASSESSMI	ENT	:											
	CR			ITY	RI	DUNDA	ANCY	SCREE	ens			CIL	
	1		LIGH' N/FU	NC	A		В		C	2		<u>, , , , , , , , , , , , , , , , , , , </u>	
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	[/	j	[1	[]	[]	(AI	[DD/E] DELETE)
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	MA			3 JETS MENT II					TIW	CH 16	RE-A	ANAI	LYZED BY

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SUBSYST MDAC ID ITEM: CONTACT:	:				FRO 120 MAI	58	D 3, i	JETS H	IEATI	er co	NTROL SW	ITCH ON
LEAD AN	AL	Y	ST	:								
ASSESSM	EN	T	:									
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		1			NC		A	E	3		С	11EM
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FORWARD	M	Αì	NI)	FOLD	3 J	ETS H	IEATEI	R CONT	ROL	SWIT	CH 16 RE-	-ANALYZED BY
IOA. SI	٤E	7	SS	SESS	MENT	' IDs	11170	X-111	74X.			

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SUBSYSTE MDAC ID: ITEM: CONTACTS		, 2		FRCS 1269 MANIE	FOLD) 3	, ј	ETS	НЕ	EATE	ER CO	ראכ	rol	SW:	ITCI	I O	N	
LEAD ANA	LY	ST	•															
ASSESSME	ENT	:																
		F	CAL			RE A	EDUN	IDAN	CY B	SCF	REENS	s c			CI II	L CEM		
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NASA IOA]	3	/ /1R]	[[P]]	P]	[P]		[] *	
COMPARE	(N	/N]	[N]	[N]	[N]		[]	
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REMARKS FORWARD IOA. S	MA	NI AS	FOLD SESS	3 JE' MENT	TS I IDs	HEZ 1:	ATEI 1170	R CO	NT 11	ROL 74X	swi.	TC	H 16	RE	-AN	ALY	ZED	В

ASSESSMEN ASSESSMEN NASA FMEA	NT ID:	FRCS-1	.270					ASA DAT. BASELIN NE]
SUBSYSTEM MDAC ID: ITEM: CONTACTS		FRCS 1270 MANIFO)LD :	3, JE	rs HI	EATER	CON	TROL SW	ІТСН	OFF
LEAD ANAI	LYST:									
ASSESSMEN	NT:									
C	CRITICAL FLIGH		RI	DUNDA	NCA	SCRE	ENS		CIL	
	HDW/FU	_	A		В		С		ITE	M
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COMPARE	[N /N]	[]	[]	[]	(]
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FORWARD M	ASSESS	3 JETS MENT ID	HEA s 11	TER C	ONTR	ROL SV	VITCI	1 16 RE-	-ANAL	YZED BY

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SUBSYSTEM MDAC ID: ITEM: CONTACTS		4	ŀ	FRCS 1271 MANI		, JI	ets Hi	EATE	ER CON	TROL	SWIT	сн (OFF	
LEAD ANAI	YS	T:												
ASSESSMEN	T:	;												
CRITICALITY REDUNDANCE SCREENS FLIGHT												CIL		
	ŀ		V/FU		A		В		(2				
NASA IOA	[3	/]	[]	[]	[]		[] *	
COMPARE	[N	/N]	[]	[]	[]		[]	
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REMARKS: FORWARD IOA. SE	MA E	NI AS	FOL	D 3 J SMENT	TETS HE	ATEF 1170	CONT	roi L74X	SWIT	CH 16	RE-	-ANAI	LYZEI) BY

ASSESSME NASA FME	NT	ID:	FRCS-	127	2				NASA BASE		. []	
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1272 SWITC	н, '	TOGGLI	E RCS	s/oms	HEA	TERS :	FWD	RCS	JET	3
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(TICAL:	ר	1	REDUNI	DANCY	SCRI	EENS			CII		
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NASA IOA	[:	/ 3 /2R]	[]] P]	[[P]	[[I	·]		[] *	
COMPARE	[]	N /N]	[]	4]	[N)	[]	1]		[J	
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SUBSYSTEM MDAC ID:	[:			FRO 127 SWI		TOGGI	E RC	s/oms	неат	ERS F	WD R	cs i	JET 3	
LEAD ANAI	LYS	T:												
ASSESSMEN	VT:													
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LEAD ANALYST:					
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FL	CALITY LIGHT	REDUNDANC	Y SCREENS		CIL ITEM
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MDAC ID:	FRCS 1285 MANIFOLD 5, JET	rs heater	CONTROL SWI	TCH ON
LEAD ANALYST:				
ASSESSMENT:				
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NO DIFFERENCES.

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RECOMMEN	DA'	ric	ons:		(If	d :	if	fer	ent	: 1	fro	om	NASA)						
	[/]		[]		[]	[]	(A] .DD/	DE		TE)
* CIL RE	TEI	NT:	ION	RAT	ION	ΔL	E:	(I	fa	ıpı	pl:	ica		A NA	DEQ DEQ	UATE UATE	[]	
NO DIFFE	REI	NCI	ES.																	

ASSESSME ASSESSME NASA FME	NT NT A	D. I! #:	ATE: D:	1/ FF 03	29/1 CS-1 -2F	345	-:	1							DA' ELII N	NE	[x]]			
SUBSYSTE MDAC ID: ITEM:				12		os:	ľA'	Г,	PR]	IM2	\R!	T	HRU	SI	ľEI	RS,	- :	X A	XI	s		
LEAD ANA	LY	ST	:	D.	HAI	RTI	IAN	V														
ASSESSME	NT	:																				
		F.	ICAL LIGH	r					NDA	ANC	CY	SC	REE	NS	3				CI IT			
	1	HDI	W/FU	NC			A				В				С							
NASA IOA	[3 3	/2R /2R]		[P P]		[P P]]	P P]			[]		*
COMPARE	[/]		[]		[]		[)			[)		
RECOMMEN	DA'	ric	ons:		(If	d:	Ĺfí	fer	ent	: f	ro	om 1	NAS.	A)								
	נ		/]		[]		٤.]		[]				DEI		re)
* CIL RE	TEI	VT:	ION 1	RAT	IONA	LI	2:	(I	f a	pp)li	cal			AI AI	EQU	UATI UATI	≘	[]		
REMARKS:	DEL	זכו	rc										,	T 1/	ını	,EQ	OWII	د	L	j		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		345 - 2		NASA DAT BASELIN NE	
MDAC ID:	FRCS 1295 THERMOSTA	r, PRI	MARY THR	USTERS, - X	AXIS
LEAD ANALYST:	D. HARTMAI	4			
ASSESSMENT:					
CRITICAL: FLIGH	ITY RI	EDUNDA	NCY SCRE	ENS	CIL ITEM
	NC A		В	С	
NASA [3 /2R IOA [2 /1R] [P]]	[P] [F]	[P] [P]	[] * [x]
COMPARE [N /N] []	[N]	[]	[N]
RECOMMENDATIONS:	(If dif	ferent	from NA	SA)	
[/] []	[]	[]	[] ADD/DELETE)
* CIL RETENTION	RATIONALE:	(If a	pplicabl	e) ADEQUATE INADEQUATE	[]
REMARKS: IOA AGREES WITH	NASA FMEA.				

ASSESSMENT DATE:	1/29/88	•		NASA DA		
ASSESSMENT ID:	FRCS-12	96		BASELI	NE [1
NASA FMEA #:	03-2F-1	03345 -	-1		EW [X	ำ
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CUBCYCMEM.	EDAC					
	FRCS					
MDAC ID:	1296					
ITEM:	THERMOS	TAT, PI	RIMARY TH	IRUSTERS, Y	AXIS	
		•				
LEAD ANALYST:	דים געו מ	MAN				
HEAD ANALISI.	D. HAKI	LIMIN				
ASSESSMENT:						
CRITICAL	ITY	REDUNI	DANCY SCR	REENS	CIL	
FLIGH	TT.				ITEN	vr
HDW/FU		A	В	C	LIEF	"1
nDW/FO	NC	A	ь	C		
NASA [3 /2R	[:	P]	[P]	[P]	[] *
NASA [3 /2R IOA [3 /1R	ו ו	Ρļ	[P]	ΓPΪ	[ī
		•	•	• •	•	•
COMPARE [/N] []	[]	[]	ſ	7
comment () in	J L	J	L J	t J	Ł	J
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RECOMMENDATIONS:	(If d	ifferer	nt from N	IASA)		
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					(ADD/DE	· Liti I ti
+ OTT DEMPNITON	D3.00T.0113.T	D. /T.		3 - 1		
* CIL RETENTION	KATIONAL	E: (If	applicab	•		
				ADEQUAT	E []
				INADEQUAT	E [ī
REMARKS:					— L	
	MACA DIET	3				
IOA AGREES WITH	nasa ime	А.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1: 03-2F-	49 <i>i</i>	45 - 2			NASA DATA BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 1297 THERMO	STAT	, PRI	MARY	THRUS	TERS, Y AX	ıs							
LEAD ANALYST:	D. HAR	TMAN												
CRITICALITY REDUNDANCY SCREENS ITEM														
CRITICALITY REDUNDANCY SCREENS CIL ITEM FLIGHT HDW/FUNC A B C														
FLIGHT														
COMPARE [N /N	3	[]	[N]	[]	[N]							
RECOMMENDATIONS	: (If	dif	feren	t fro	om NAS	A)								
[/		[1	[3	[] ([] ADD/DELETE)							
* CIL RETENTION	RATION	ALE:	(If	appl	icable	e) ADEQUATE INADEQUATE								
REMARKS: IOA AGREES WIT	H NASA I	MEA.												

ASSESSM ASSESSM NASA FM SUBSYST	EN'	r] #:	DATE D:	F) 0:	RCS-1: 3-2F-:	8 298 103	3 3 3 4	5 -1					SA DA ASELI N]]
MDAC ID	:			12 TH	RCS 298 HERMOS	TA	T,	PRIM	AR	У Т	HRUS	TERS	3, Z	AXIS		
LEAD AN	ALY	ST	':	D.	HART	'MA	N									
ASSESSMI	ENT	:														
		F	ICAL LIGH	T	•	R	EDI	UNDAN	CY	SCI	REEN:	S		CI		
		HDI	W/FU	NC		A			В			С		IT	EM	
NASA IOA	[3	/2R /2R]	[P P]	[P P]	[P] P]]]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT	ľIC	NS:		(If di	Ĺfſ	er	ent f	rc	m N	IASA)					
	[/					[]	(2	[ADD/[TE)
* CIL RE	TEN	TI	ON F	[TA	ONALE	:	(I	f app	li	cab						
REMARKS: NO DIFFEI	REN	CE.	s.								IN	ADEQ ADEQ	UATE UATE	[]	

ASSESSME	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-1299 NASA FMEA #: 03-2F-103345								-2						SA ASE		E]	
SUBSYSTEM MDAC ID:				FR 12 TH	99	si	ľA'	., P	PRIN	(A)	RY	TH	IRUST	EF	s,	Z A	ΧI	s			
LEAD ANA	LYS	ST:	:	D.	HAF	T	(A)	ī													
ASSESSME	NT:	:																			
•	CR]		CAL:				RI	EDUN	IDAI	NC	Y	SCF	REENS	5				CI IT		[
	ŀ		/FUI				A				В			С							
NASA IOA	[3 2	/2R /1R]		[P P]		[[P F]	<u>[</u>	P P]			[X]	*
COMPARE	[N	/N]		[]		[N]	[]			[N]	
RECOMMEN	DA!	ΓI	ons:		(If	đ.	if:	fere	ent	f	ro	om 1	NASA)							
	[/]		[]		[]	[]	(ΆĽ	[DD/	'DI] ELE	ETE)
* CIL RE	TE	ΝT	ION :	RAT	ION	AL	E:	(11	f a	pp	1:	ical			DEQU DEQU			[]	
REMARKS:		W	ITH	NAS	A F	ME.	A.														

ASSESSMENT ID: NASA FMEA #:	FRCS-1300 03-2F-103345 -2	29/88									
SUBSYSTEM:	FRCS 1300 THERMOSTAT, VER		RS, ALL AXES								
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICALI FLIGHT		NCY SCREENS	CIL ITEM								
HDW/FU		в с	IIEM								
NASA [3 /2R IOA [2 /2] [] *] [x]									
COMPARE [N /N] [N]	[и] [и] [n]								
RECOMMENDATIONS:	(If different	from NASA)									
[2 /2] []	[] [] [A] (ADD/DELETE)								
* CIL RETENTION F	RATIONALE: (If a	·	DEQUATE []								
REMARKS:			DEQUATE [] DEQUATE []								
REMARKS: THIS FAILURE MAY CAUSE LOSS OF MISSION OPERATIONS. NOTE: VERNIER THRUSTERS THERMAL SWITCH NOT SPECIFICALLY ADDRESSED ON THIS FMEA.											

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FMEA	FRCS-1		NASA DATA: BASELINE [] NEW []										
SUBSYSTEM MDAC ID: ITEM:	!:		FRCS 1301 THERMO	STAT	r, VEF	RNI	ER	THRU	JST	ERS, ALL	AXES	5	
LEAD ANAI	YST	:	D. HAR	(AMT	1								
ASSESSMEN	IT:												
C	CRITICALITY REI							SCREE	ens	}	CII		
			IC	A			В			С			
NASA IOA	[2	/ /1R]	[[P]	[[F]	[[P]	[;	x]	*
COMPARE	[N	/N]	[]	[N]	[]	[]	4]	
RECOMMENI)ATI	ONS:	(If	dif	ferent	: f	rc	m NAS	SA)				
	[/]	[1	1		1	[] (2	[ADD/1] DELE	ETE)
* CIL RET	ENT	ION I	RATIONA	ALE:	(If ā	app	li	.cable		ADEQUATE IADEQUATE	[]	
REMARKS:	יוואי	STERS	S THERM	TAL S	SWITCH	ΙN	гот	ADDE			•	•	

SUBSYSTEM MANAGER STATED THAT THE VERNIER THERMAL SWITCH WAS PART OF THE VERNIER THRUSTER ASSEMBLY AND DID NOT REQUIRE A SEPARATE FMEA. FOR CONSISTENCY WITH THE PRIMARY THRUSTERS, IOA RECOMMENDS A FMEA BE CREATED TO COVER THIS FAILURE MODE.

ASSESSME ASSESSME NASA FME				ASA D. BASEL	INE]							
SUBSYSTE MDAC ID:		FRCS 11001 FUSE,	1 A											
LEAD ANA	LYST:	D. HAF	(AMT)	1										
ASSESSME	NT:													
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												CIL ITEM		
	HDW/FU	NC	А			В			C					
NASA IOA	[3 /2R [3 /1R]	[P]]	P NA]	[P P]		[] *]	
COMPARE	[/N]	[]	[N]	[]		[]	
RECOMMEN	DATIONS:	(If	diff	feren [.]	t	fro	m NAS	SA)					
	[3 /1R]	[P]	[NA	\]	[P]	(Al	[DD/D] ELETE)	
* CIL RE	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE []													
	INADEQUATE []													

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMEN ASSESSMEN NASA FMEA	T I	[D:													SA DA' ASELI N	NE	[x]	
SUBSYSTEM MDAC ID: ITEM:	4:			110		1A													
LEAD ANA	LYS'	r:		D.	HAR'	TM	AN												
ASSESSME	NT:																		
	CRITICALITY FLIGHT								DAN	1C	Y	SCREE	NS	}			CIL	4	
	FLIGHT HDW/FUNC										В			С					
NASA IOA	[3 ,	/2R /1R]]	P P]	 	[[P NA]	[P P]		[]	*
COMPARE	(,	/N]		[]	1	[N]	[]		[]	
RECOMMEN	DAT	10	NS:		(If	di	fí	ere	nt	f	ro	om NAS	SA))					
	ſ	3	/1R	}		[P]		[NZ	A]	[P	1	(A)	[DD/D		ETE)
* CIL RE	TEN	ITI	ON :	RAT	ION?	L	Ξ:	(If	a	pı) 1:	icable			DEQUA'		[]	
REMARKS: FAILURE REDUNDAN	REMARKS: FAILURE CAUSE THE INABILITY TO CLOSE THE VALVE. LOSS OF ALL REDUNDANCY PREVENTS ISOLATION OF A THRUSTER LEAK.																		

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMEN ASSESSMEN NASA FMEA	3X 32 - 1	NASA DATA: BASELINE [] NEW [X]											
SUBSYSTEM MDAC ID: ITEM:	-	FRCS 11003 MANIFO	LD !	5, ox	&	FU	ISOI	. ·	VĽ	V SWITCI	H		
LEAD ANAL	YST:	D. HAR	[MA]	N									
ASSESSMENT	r:												
CI	FLIGHT	?	EDUND	NDANCY SCREENS							L EM		
	HDW/FUN	ic	A			В С						D1/1	
NASA [3 /2R 3 /1R] [P]	[P NA]	[[P P]	[]	*
COMPARE [/N] [•]	[N]]	[]	[]	
RECOMMENDA	TIONS:	(If d	iff	erent	: f	ron	n NAS	A)					
[3 /1R] [P]	[NA]		[P	-	[DD/I	-	TE)
* CIL RETE	NTION R	ATIONAL	E:	(If a	pp	lic	able)					
REMARKS:										EQUATE EQUATE]	
SWITCHED F LOSS OF AL	AILED O L REDUN	PEN CAU DANCY P	SES REV	THE ENTS	IN IS	ABI OLA	LITY	T 0	O F	CLOSE T A THRUS	HE V TER	'ALV: LEA	E. K.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSME ASSESSME NASA FME	4X 32-1						SA DATA ASELINE NEW]				
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 11004 MANIFO	LD	5, OX	ζ &	. 1	FU ISO	ւ ւ	/LV	SWITCH		
LEAD ANA	LYS	r:	D. HAR	AMT	N								
ASSESSME	NT:												
			LTY.	R	EDUNI	AN	1C:	Y SCRE	3		CIL ITEN	ar	
		FLIGH! DW/FUI		A	•		1	В		С		****	•
NASA IOA	[:	3 /2R 3 /1R]	[P]	[[] []	P] NA]	[P P]	[] *]
COMPARE	[/N]	[]	[[]	и]	[]	[]
RECOMMEN	DAT:	ions:	(If	dif	fere	nt	f	rom NA	SA)			
	[3 /1R]	[F)	1	[]	NA]	[P] (A	[.DD/D1] ELETE)
* CIL RE	TEN'	TION :	RATION?	ALE:	(If	aŗ	qq	licabl			DEQUATE DEQUATE	-]
REMARKS: SWITCHED LOSS OF	FA	ILED REDU	OPEN CA	AUSE PRE	S THE	E I	IN IS	ABILIT OLATIO	Y '	TO OF	CLOSE T	HE V	ALVE. LEAK.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

NASA DATA:

ASSESSMENT DATE: 1/29/88

ASSESSMENT ID: NASA FMEA #:		FRCS-11005X BASELINE 05-6KF-2032-2 NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11005 MANIFOLD 5	, OX & FU ISOL	VLV SWITCH								
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICA FLIG		DUNDANCY SCREEN	s	CIL							
	UNC A	В	С	ITEM							
NASA [3 /1 IOA [2 /2	R] [P]] [F] [P]	[X] *							
COMPARE [N /N] [N]] [и][N]	[]							
RECOMMENDATIONS	: (If diffe	erent from NASA)								
[3 /1	R] [P]] [F] [P] (AI	[A] DD/DELETE)							
* CIL RETENTION	RATIONALE:		ADEQUATE	[]							
INADEQUATE [] REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. LOSE CAPABILITY TO OPEN THE VALVE. THIS CAUSES LOSS OF VERNIERS THUS MISSION OPERATIONS.											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ISSUE REMAINS OPEN.

NASA DATA:

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11006X NASA FMEA #: 05-6KF-2032-												SA DAT ASELIN NE	E	[[x		
SUBSYSTEM MDAC ID:			FRCS 11006 MANIFO	LD	5	s, ox	&	F	J ISOL	, ,	/LV	'SWITC	:H			
LEAD ANA	LYST:	:	D. HAF	RTM.	AN	ī										
ASSESSME	NT:															
,		REDUNDANCY SCREENS									CIL					
		LIGH!		i	A			В			С				••	
NASA IOA	[3 [3	/2R /1R]	[]	P P]	[P N] A]]	P P]		[]	*
COMPARE	ĺ	/N]	[1	[N]	[]		[]	
RECOMMEN	DATIC	ons:	(If	di	fí	ferent	t :	fr	om NAS	SA)					
	[3	/1R	1	[P]	[N.	A]	[P]	(AI	[DD/E		
* CIL RE	TENT:	ION	RATION	ALE	:	(If	ap)	pl	icable			DEQUATI		[]	
REMARKS: SWITCHED LOSS OF	FAI:	LED REDU	OPEN CANDANCY	AUS PR	E:	S THE VENTS	I I	NA SO	BILITY LATION	Z '	TO OF	CLOSE A THRU	TI 'SU	HE V TER	'AL'	VE. AK.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1100			NASA DATA BASELINA NEV	
	FRCS 11007 MANIFOLD	5, OX	& FU ISO	L VLV SWITCH	ī
LEAD ANALYST:	D. HARTMA	AN			
ASSESSMENT:					
CRITICAL: FLIGH		REDUNDA	NCY SCRE	ENS	CIL ITEM
HDW/FUI	NC A	1	В	С	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
NASA [3 /1R IOA [3 /1R		?]	[F] [P]	[P] [P]	[X] *
COMPARE [/] []	[и]	[]	[N]
RECOMMENDATIONS:	(If dif	ferent	from NA	SA)	
[3 /1R] [P	']	[F]		[A] DD/DELETE)
* CIL RETENTION I	RATIONALE:	(If a	pplicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONTAIN THE VALVE TO ISOI				OSE CAPABILI	

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11008X	-11008X BASELINE KF-2090-1 NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11008 RESISTOR, 1.2	2K 2W									
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
		NDANCY SCREENS	CIL ITEM								
FLIGH HDW/FU	NC A	в с	IIEM								
NASA [3 /1R IOA [3 /2R] [P]] [P]] [X] *									
COMPARE [/N] []	[и]] [N]								
RECOMMENDATIONS:	(If differ	ent from NASA)									
[3 /2R] [P]	[P] [P	[D] (ADD/DELETE)								
* CIL RETENTION	RATIONALE: (I	A	DEQUATE [] DEQUATE []								
INADEQUATE [] REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE STATUS. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	ID:	FRC				:	NASA DA BASELI N			
SUBSYSTE MDAC ID:			FRC 110 RES		1.2	2K 2W					
LEAD ANA	LYS	ST:	D.	HARTMA	N						
ASSESSME	NT:	:									
	CR	TICAL FLIGH		R	NDANC!	Y SCR	EENS		CI		
	F	HDW/FU		. A		1	3	(C	IT	314
NASA IOA	[3 /3 3 /3]	[]]]]]	[] *]
COMPARE	[/]	[]	[1	[]	[]
RECOMMEN	DAT	rions:	(If dif	fere	ent fi	com N	ASA)			
	[/]	[]	[]	[]	[(ADD/I] DELETE
* CIL RE	TEN	TION	RATI(ONALE:	(If	appl	licab	1	ADEQUATI]

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT I	[D:	FRCS	/88 -11010 KF-209				N	BASEL	INE			
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 1101 RESI		5.1	K 1/4	W						
LEAD ANA	LYST	r:	D. H	ARTMAI	1								
ASSESSME	NT:												
		rical		R	EDUN	DANCY	SCR	EENS			CIL		
	_	FLIGH DW/FU	_	A		В	,	(=				
NASA IOA	[:	3 /3 3 /3]	[[]	[[]	[]		[]	*
COMPARE	[/]	[]	ſ	1	[1		[]	
RECOMMEN	DAT:	ions:	(1	f dif	fere	nt fr	om N	ASA)					
	[/)	[]	[]	[]	(A	[DD/[TE)
* CIL RE	TEN	TION	RATIO	NALE:	(If	appl	icab	1	ADEQUA ADEQUA]	
REMARKS:											_		

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT ID:	FRCS-	1101				:	NASA DAT BASELIN NE] x]	
SUBSYSTE MDAC ID:		FRCS 11011 RESIS		5.1	K 1/4	W					
LEAD ANALYST: D. HARTMAN											
ASSESSME	NT:										
	CRITICAI FLIGH		R	EDUNI	DANCY	SCRE	ENS		CII		
	HDW/FU		A		В		(2		11.1	
NASA IOA	[3 /3]	[[]	[]	[]]	[]	*
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om NA	SA)				
	[/]	[]	[]	[] ([ADD/[] ELE	TE)
* CIL RE REMARKS: NO DIFFE		RATION	ALE:	(If	appl	icabl	1	ADEQUATE ADEQUATE	-]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	L/29/88 NASA DATA: FRCS-11012X BASELINE [05-6KF-2091-1 NEW [
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11012 RESISTOR								
LEAD ANALYST:	D. HARTI	D. HARTMAN							
ASSESSMENT:	ASSESSMENT:								
CRITICAL FLIGH		REDUNDAN	CY SCREEN	ıs	CIL ITEM				
HDW/FU		A	В	С					
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [] P]	[] *				
COMPARE [/N] [и ј [и] [N]	[]				
RECOMMENDATIONS:	(If d	ifferent	from NASA	7)					
[3 /2F	.] [P] [P] [[P]	[] DD/DELETE)				
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1101 05-6KF-20	13X 091 - 1		NASA DATA BASELINE NEW	
SUBSYSTEM:	FRCS 11013 RESISTOR,				()
LEAD ANALYST:	D. HARTMA	AN			
ASSESSMENT:					
CRITICAL: FLIGHT HDW/FUI	r	REDUNDANC)		s c	CIL ITEM
·		_	-	_	
NASA [3 /3 IOA [3 /2R] [P) [I) [] P]	[] *
COMPARE [/N] [N	1] [1	i] [и ј	[]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)	
[3 /2R] [P	P] [I	,] ([] DD/DELETE)
* CIL RETENTION I	RATIONALE:	(If appl	icable)		
DEWA DVG			I	ADEQUATE NADEQUATE	[]
REMARKS: THIS FAILURE MAY POSITION. REDUND TO FALSELY FAILIN OPERATIONS.	DANCY PROV	IDED. LO	SS OF A	LL REDUNDAN	NCY MAY LEAD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11014X 05-6KF-2091-1	[x]						
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11014 RESISTOR, 5.1K 1/							
LEAD ANALYST:	D. HARTMAN	. HARTMAN						
ASSESSMENT:								
CRITICAL FLIGH	ITY REDUNDANC	Y SCREENS	CIL ITEM					
		В С						
NASA [3 /3 IOA [3 /2R] [] [P] []	[] *					
COMPARE [/N] [N][и] [и]	[]					
RECOMMENDATIONS:	(If different f	rom NASA)						
[3 /2R] [P] [P] [P] (A	[] DD/DELETE)					
* CIL RETENTION	RATIONALE: (If app	licable) ADEQUATE INADEQUATE						
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11015 05-6KF-209	5X 91-1	N 2	NASA DATA: BASELINE [] NEW [X]					
	FRCS 11015 RESISTOR,								
LEAD ANALYST:	D. HARTMAN	ī							
ASSESSMENT:									
CRITICAL FLIGH		DUNDANCY	SCREENS		CIL ITEM				
HDW/FU	_	В	С		IIEM				
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [] [P]		*			
COMPARE [/N] [n] [N] [N]	[]				
RECOMMENDATIONS:	(If diff	erent fro	om NASA)						
[3 /2R] [P] [P] [P		[] D/DEI				
* CIL RETENTION	RATIONALE:	(If appli							
REMARKS:				DEQUATE DEQUATE	[]				
THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.									

ASSESSMENT ID:	NT DATE: 1/29/88 NASA DATA NT ID: FRCS-11016X BASELINE A #: 05-6KF-2156-2 NEW								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11016 EVENT IN								
LEAD ANALYST:	ANALYST: D. HARTMAN								
ASSESSMENT:									
CRITICA: FLIG	CIL	ī							
HDW/F		A	В	С	1111				
NASA [3 /3 IOA [3 /2]] [:] [P] [p]	[] [P]	[] *			
COMPARE [/N] []	и][N]	[N]	[]			
RECOMMENDATIONS	(If di	fferent f	rom NAS	A)					
[3 /2]	R] [:	P] [P]	[P] (A)	[DD/DE] LETE)			
* CIL RETENTION	RATIONALE	: (If app	licable) ADEQUATE	[1			
DEMADVC •				INADEQUATE	ζ	j			
REMARKS: THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FAISELY FAILING THE VALVE CLOSED. POSSIBLY EFFECTING MISSION									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1101	17X 156-1	NASA DATA BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11017 EVENT IND							
LEAD ANALYST:	D. HARTMA	AN .						
ASSESSMENT:	ASSESSMENT:							
		REDUNDANCY SO	CREENS	CIL				
FLIGH HDW/FU	NC A	А В	c	ITEM				
NASA [3 /1R IOA [3 /2R] [E	P] [F]	[P] [P]	[X] *				
COMPARE [/N] [] [N]	[]	[N]				
RECOMMENDATIONS:	(If dif	fferent from	NASA)					
[3 /2R] []	P] [P]		[D] DD/DELETE)				
* CIL RETENTION	RATIONALE:	: (If applica	ADEQUATE	[]				
INADEQUATE [] REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE STATUS. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.								

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	18X 177-1		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11018 CONTROLI	ER, REMOT	E POWER		
LEAD ANALYST:	D. HARTI	NAI			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREENS	5	CIL ITEM
FLIGH HDW/FU		A	В	C	
NASA [3 /2R IOA [3 /1R	[P] [P] [P] [NA] [P] P]	[] *
COMPARE [/N] [] [и] [1	[]
RECOMMENDATIONS:	(If d	ifferent i	from NASA)	
[3 /1F	?] [P] [NA] [P] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap		ADEQUATE NADEQUATE	
REMARKS: FAILURE CAUSES : LEAK.	INABILITY	TO CLOSE	THE VALV	E TO ISOLA	TE A THRUSTER
ISSUE IS TIED TO	O THE IOA ATION VAI	A HARDWARE	CRITICAL	ITY FOR TH	E FAILED OPEN

ASSESSM ASSESSM NASA FM	ENT	I	D:	F	/29/8 RCS-1 5-6KF	10							ASA DA BASEL	 [] [
SUBSYSTI MDAC ID: ITEM:				1	RCS 1019 ONTRO	LLI	ER,	REMO	TE	P	OWER					
LEAD AND	ALY	ST	:	D	. HART	'M.	AN									
ASSESSMI	ENT	:														
	CR		ICAL: LIGH:		ď	F	RED	UNDAN	CY	S	CREENS	S		CIL ITE		
]	HDI	W/FUI	NC.		2	A		В			С		TIE	M	
NASA IOA		3 3	/1R /3]	[]	F	?]]	F]	[P]	[X] *	
COMPARE	[/N]	C	N	ſ]	[N]	[N]	[N]	
RECOMMEN	DAT	CIC	ons:		(If d	if	fe:	rent :	fro	m	NASA)					
	[3	/3]	ι]	[]	[-	[D [D/D]] ELETE)
	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []															
REMARKS: NASA FME. EFFECT.	A C	ON	TAIN	S	MULTI	PL	E I	FAILUR	ES	•				LONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	II		1/29/ FRCS- 05-61	-110							_	SA D ASEI		[]	
SUBSYSTE MDAC ID: ITEM:	M:			FRCS 11026 CONT		EF	٤,	REMOT	ľE	POW	ER							
LEAD ANA	LYS	ST:	:	D. H	ARTM	IAN	ī											
ASSESSME	NT:	:																
	CR:		CAL			RF	EDU	JNDAN	CY	SCR	EENS	3			C]	L	ſ	
	1		LIGH' V/FU			A			В			С					•	
NASA IOA			/2R /2]	[P]	[P]] [P]		[x]	*
COMPARE	[N	/N	1	[N]	[N]	ſ	N]		[N]	
RECOMMEN	DA'	ric	ons:	(I	f di	Ĺfí	fei	rent :	fro	om N	ASA))						
	ĺ	2	/2]	[-]	(]	[]	(A	•	A /DI	_	ETE)
* CIL RE	TE	NT:	ION :	RATIO	NALI	Ξ:	(:	If ap	pl:	icab			DEQUA		[]	
REMARKS: FAILURE PERFORM	CA						ΓY	TO O	PE	N TH	E IS	501	LATI	ON V	AL	VΕ	TC)

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED

CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	021X 2178-2		NASA DATA BASELINE NEW	[]				
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11021 CONTROLI	LER, REMO	TE POWER						
LEAD ANALYST:	D. HARTM	IAN							
ASSESSMENT:									
CRITICAL! FLIGHT		REDUNDAN	CY SCREEN	S	CIL ITEM				
HDW/FU	1C	A	В	С					
NASA [3 /1R IOA [3 /3] [P] [F] [P]	[X] *				
COMPARE [/N] [и] [N] [N]	[N]				
RECOMMENDATIONS:	(If di	.fferent :	from NASA)					
[3 /3] [) [] [] (Al	[D] DD/DELETE)				
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: NASA FMEA CONTAIN EFFECT.	EMARKS: ASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO								

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11022X	O22X BASELINE []								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11022 DRIVER, HYB	BRID								
LEAD ANALYST:	D. HARTMAN									
ASSESSMENT:										
		OUNDANCY SCREENS		CIL ITEM						
FLIGH HDW/FU	NC A	В	С							
NASA [3 /1R IOA [3 /2R] [P]] [F] [] [P] [P] P]	[X] * []						
COMPARE [/N] []] [N] []	[N]						
RECOMMENDATIONS:	(If diffe	erent from NASA)								
[3 /2R] [P]] [P] [P]	[D] DD/DELETE)						
* CIL RETENTION	RATIONALE:		ADEQUATE ADEQUATE							
REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.										

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI	ENT DATE ENT ID: EA #:	29/88 NASA DATA: CS-11023X BASELINE -6KF-2210A-2 NEW							[x]		
SUBSYSTI MDAC ID: ITEM:		FRCS 1102 DRIV		YBRI	D							
LEAD AND	ALYST:	D. H.	ARTMA	N								
ASSESSMI	ENT:											
	CRITICA		R	EDUN	DANCY	SCR	REENS			CII	-	
	HDW/F		A		В		С				44.	
NASA IOA	[3 /2] [3 /1]	R]	[P]	[P]	[P]		[] *]	
COMPARE	[/N]	[]	[]	[]		[]	
RECOMMEN	IDATIONS:	(I	f dif	fere	nt fr	om N	ASA)					
	[3 /11	R]	[P]	[P]	[P]	(AI	[DD/E] DELETE)	
* CIL RE	TENTION	RATIO	VALE:	(If	appl	icab	A	DEQU <i>A</i> DEQU <i>A</i>		[j	
REMARKS: THIS FAITHRUSTER	LURE CAU	JSES TI	HE IN	ABIL	ITY TO	o cr		-		•	ISOLATE	A

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11024X	NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11024 DRIVER, HYBRID						
LEAD ANALYST:	D. HARTMAN						
ASSESSMENT:							
CRITICAI FLIGH	 -	NCY SCREENS	CIL ITEM				
HDW/FC	_	В С					
NASA [3 /1F IOA [3 /2F	R] [P] R] [P]	[F] [P] [P] [P]	[X] * []				
COMPARE [/N] []	[и] [и]	[N]				
RECOMMENDATIONS	: (If different	from NASA)					
[3 /2	R] [P]	[P] [P]	[D] ADD/DELETE)				
* CIL RETENTION	RATIONALE: (If a	applicable) ADEQUATE INADEQUATE	[]				
OF ACCURATE IND	ICATION OF THE VA	LURES. THIS FAILURE ALVE POSITION. REDUI CY MAY LEAD TO FALSE: G MISSION OPERATIONS	LY FAILING THE				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11	025X		NASA DATA BASELINE NEW						
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11025 DRIVER,	HYBRID)			•				
LEAD ANALYST:	D. HART	MAN								
ASSESSMENT:										
CRITICALI FLIGHT	ŗ	REDUND			ENS	CIL ITEM				
HDW/FUN	VC	A	В		С					
NASA [3 /2R IOA [2 /2] [P]	[P]	[P] []	[] * [x]				
COMPARE [N /N] [N]	[N]	[N]	[N]				
RECOMMENDATIONS:	(If di	ifferent	t fro	om NAS	SA)					
[2 /2) [1	[]	[] (AD	[A] D/DELETE)				
* CIL RETENTION R	ATIONALE	: (If a	appli	.cable	<u>:</u>)					
REMARKS:					ADEQUATE INADEQUATE	[]				
THIS FAILURE CAUSI OF VERNIERS FOR M	ES THE I	NABILIT	Y TO	OPEN	THE VALVE,	CAUSING LOS				

SS ERNIERS FOR MISSION OPERATIONS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSME ASSESSME NASA FME	D:	FRCS-	1102				NASA I BASEI	LINE]	
SUBSYSTE MDAC ID:			FRCS 11026 DRIVE	R, H	YBRID	•					
LEAD ANA	LYST	:	D. HA	RTMA	N						
ASSESSME	NT:										
		ICAL:		R	EDUND	ANCY	SCREEN	s		CIL	
	_	LIGHT W/FUI		A		В		С		ITE	1
NASA IOA	[3	/2R /1R]	[P]	[P [NA] [P] P]		[] *
COMPARE	[/N]	[]	[N) []		ſ]
RECOMMEN	DATI	ons:	(If	dif	feren	t fro	m NASA)			
	[3	/1R]	[P]	[NA] [P]	(Al	[[D/DI] ELETE)
* CIL RE	TENT	ION I	RATION	ALE:	(If	appli		ADEQUA NADEQUA		[]
REMARKS: THIS FAI	LURE		SES IN	ABIL	ITY T	O CLO	SE THE	VALVE	то	ISOL	ATE A

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1102			BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11027 DRIVER, H	YBRID			
LEAD ANALYST:	D. HARTMAI	N			
ASSESSMENT:					
CRITICAL: FLIGH		EDUNDANC	Y SCREE	ens	CIL ITEM
HDW/FU			В	С	11111
NASA [3 /1R IOA [3 /3] [P] [F]	[P] []	[X] * []
COMPARE [/N] [N] [N]	[N]	[и]
RECOMMENDATIONS:	(If dif	ferent f	rom NAS	SA)	
[3 /3) [] []	[] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If app	olicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTIPL	E FAILUR	RES. TH	HIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11 NASA FMEA #: 05-6KF-						282 212	Κ 2−1							DATA: ELINE NEW			
SUBSYSTEM MDAC ID: ITEM:	M:			028	.,	HYI	BRID										
LEAD ANA	LYST	:	D.	HAR	TM	AN											
ASSESSME	NT:																
•		ICAL: LIGH				RE	DUND	AN(CY	SCREE	ENS	3			CIL		
		W/FU				A			В			С					
NASA IOA	[3	/2R /1R]		[P P]	[P NA]	[P P]		[] *]	
COMPARE	[/N]		[]	[N	3	[]		[]	
RECOMMEN	DATI	ons:		(If	di	ff	eren	t :	fro	m NAS	SA))					
	[3	/1R]		[P]	[NA	.]	[P]	(AI	[DD/I] DELETE)	
* CIL RE	TENT	ION	RAT	ION	ALE	:	(If	ap	pli	.cable				QUATE QUATE]	
REMARKS:	LURE	CAU	SES	THE	E I	NA	BILI	ТY	TC	CLOS	SE	TI	ΗE	VALVE	то	ISOLATE	Α

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

THRUSTER LEAK.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11029X	NASA DATA BASELINE NEW			
	FRCS 11029 DRIVER, HYBRID				
LEAD ANALYST:	D. HARTMAN				
ASSESSMENT:					
CRITICAL: FLIGHT		CY SCREENS	CIL		
HDW/FUI	_	В С	ITEM		
NASA [3 /1R IOA [2 /2] [P] [F] [P]	[X] * [X]		
COMPARE [N /N] [N] [и] [и]	[]		
RECOMMENDATIONS:	(If different	from NASA)			
[3 /1R] [P] [NA] [P] (A	[D] DD/DELETE)		
* CIL RETENTION F	RATIONALE: (If app	= · · · · · · · · · · · · · · · · · · ·	_		
DEWARUG.		ADEQUATE INADEQUATE			
REMARKS: NASA FMEA CONTAIN CAUSES INABILITY OF VERNIERS THUS	TO OPEN THE ISOL		AILED HIGH CAUSES LOSS		

ISSUE TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSME	NT	I	D:	: 1/29/88 FRCS-11030X 05-6KF-2211-1						NASA DATA: BASELINE [] NEW [X]											
SUBSYSTEMDAC ID:	M:			11	CS 030 IVE	٦,	н	'BRI	:D												
LEAD ANA	LY	ST	:	D.	HAI	?TI	IAN	1													
ASSESSME	NT	:																			
(CR:		ICAL: LIGH				RI	EDUN	[DA]	NC:	¥	SCRE	EN	S					I L PEI		
	1	HDI	W/FUI	NC.			A]	В			С						_	
NASA IOA	[3 2	/2R /2]		[P]		[]	P]	[P]			[x]	*
COMPARE	[N	/N]		[N]		[]	1]	[N]			[N]	
RECOMMENI	DA!	ric	ons:		(If	d:	iff	ere	nt	f	co	m NAS	SA)							
	[2	/2]		[]	ļ	[)	[]				A /DI		ETE)
* CIL RE	ΓEI	NT:	ION I	TAS	IONA	LI	Ξ:	(If	ap	gp.	Ιi	cable	·	A I A V	DEQ DEO	UATE UATE		[]	
REMARKS: THIS FAIL		RE	CAUS	SES	TNA	B	гт.т	ጥሃ	то	OI	ाम	ו יוידי								•	25

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

THUS CAUSING LOSS OF MISSION OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-110 05-6KF-2			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11031 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDANG	CY SCREEN	s	CIL ITEM
HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3		P] [F] [P]	[X] * []
COMPARE [/N] [и] [N] [N]	[N]
RECOMMENDATIONS:	(If di	.fferent	from NASA	۷)	
[3 /3] [] [] [] (A	[D] .DD/DELETE)
* CIL RETENTION	RATIONALE	E: (If ap)		ADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTIP	PLE FAILU	RES. THI	S FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11032X	NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11032 DRIVER, HYBRID								
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICAL FLIGH		CY SCREENS	CIL ITEM						
HDW/FU		В С							
NASA [3 /2R IOA [2 /2] [P] [P] [P]]	[] * [x]						
COMPARE [N /N] [N][и] [и]	[N]						
RECOMMENDATIONS:	(If different	from NASA)							
[2 /2] [] [[] [AI	[A] DD/DELETE)						
* CIL RETENTION	RATIONALE: (If ap	plicable) ADEQUATE INADEQUATE	[]						
REMARKS: THIS FAILURE CAU OF VERNIERS THUS	EMARKS: HIS FAILURE CAUSES THE INABILITY TO OPEN THE VALVE, CAUSING LOSS F VERNIERS THUS MISSION OPERATIONS.								

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:		.033X			A DATA: SELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11033 DRIVER,	HYBRID								
LEAD ANALYST:	D. HART	MAN								
ASSESSMENT:										
	CALITY IGHT	REDUNDA	ANCY S	CREENS	CIL ITEM					
	/FUNC	A	В	С	IIEM					
NASA [3]	/1R] [/1R] [P] P]	[F] [P]	[P] [P]	[X] * []					
COMPARE [/] []	[N]	[]	[N]					
RECOMMENDATIO	NS: (If d	ifferent	from	NASA)						
[3 ,	/3] [)	[]	[]	[D] (ADD/DELETE)				
* CIL RETENTION REMARKS:	ON RATIONAL	E: (If a	applica	•	QUATE [] QUATE []					
NASA FMEA CONT THE VALVE TO				LOSE CAR	PABILITY TO CLOS	SE				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11034X	-1	NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11034 DRIVER, HYBI	RID		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL		UNDANCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [3 /2R IOA [2 /2] [P]] []	[P] []	[P] []	[x] *
COMPARE [N /N] [N]	[N]	[N]	[и]
RECOMMENDATIONS:	(If diffe	rent from NAS	A)	
[2 /2] []	[]	[]	[A] DD/DELETE)
* CIL RETENTION	RATIONALE: () ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE CAU OF VERNIERS THUS	SES HE INABI MISSION OPE	LITY TO OPEN	THE VALVE,	CAUSING LOSS

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11 05-6KF-	035X		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11035 DRIVER,	HYBRII)								
LEAD ANALYST:	D. HART	MAN									
ASSESSMENT:											
CRITICALI FLIGHT		REDUNE	ANCY	SCREENS		CIL					
HDW/FU		A	В	•	С	ITEM					
NASA [3 /1R IOA [3 /3] [P]	[F] [P]	[X] *					
COMPARE [/N] [N]	[N] [1	N]	[N]					
RECOMMENDATIONS:	(If d	ifferen	t fro	om NASA)							
[3 /3] []	[) [] (AI	[D] DD/DELETE)					
* CIL RETENTION F	ATIONALI	E: (If	appli	-							
REMARKS:					ADEQUATE ADEQUATE	[]					
NASA FMEA CONTAIN EFFECT.	S MULTII	PLE FAI	LURES	. THIS	FAILURE A	LONE HAS NO					

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-110	036X		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11036 DIODE				
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDAN	CY SCREEN	s	CIL ITEM
HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3] [P] [F] [P]	[X] *
COMPARE [/N] [и] [[и]	N]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NASA)	
[3 /3] [] [.] [] (A	[D] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ar		ADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTI	PLE FAIL	JRES. THI	S FAILURE	ALONE HAS NO
AT MEETING WITH	SUBSYSTE	M MANAGEI D UPON TI	R ON 1/20/ HAT THE IS	88, NSTS 2 SUE RAISED	2206 WAS ABOVE WAS

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	FRCS-1: 05-6KF-	3 1037X -2257 - 2		NASA DAT BASELIN NE									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11037 DIODE												
LEAD ANALYST:	D. HART	TMAN .											
ASSESSMENT:													
CRITIC: FLIC		REDUNDAN	ICY SCRI	EENS	CIL ITEM								
	UNC	A	В	С	ITEM								
NASA [3 /: IOA [3 /:	R] [P] [P]	[] [P]	[]	*							
COMPARE [/I] [[и]	N]	[N]	[]								
RECOMMENDATIONS	: (If d	lifferent	from NA	ASA)									
[3 /2	R] [P] [P]	_	[] ADD/DEL	ETE)							
* CIL RETENTION	RATIONAL	E: (If ap	plicabl	•									
DEMARKS.				ADEQUATE INADEQUATE	[]								
THIS FAILURE MA	TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION												

ASSESSME	SESSMENT DATE: 1/29/88 SESSMENT ID: FRCS-11038X SA FMEA #: 05-6KF-2257A-1										DATA ELINE NEW	[x :	 	
SUBSYSTE MDAC ID: ITEM:	M:			CS 038 ODE											
LEAD ANA	LYST	:	D.	HART	MA	N									
ASSESSME	NT:														
		ICAL			R	EDUN	DANCY	sc	REENS			CI	LEM		
		W/FU			A		E	3		С		11	EM		
NASA IOA	[3 [3	/1R /3]	[P]	[F	`]	[[P]		[[X	* 	
COMPARE	[/N]	[N)	[]	[]	[и]		[N :	1	
RECOMMEN	DATI	ons:	i	(If d	lif	fere	nt fr	om	NASA)						
	[3	/3	3	[]	[]	[]	(A		DE I	 LETE)	I
* CIL RE	TENT	ION :	RAT:	IONAI	E:	(If	appl	ica			UATE UATE	-			
NASA FME	A CO	NTAI	NS 1	MULTI	PL	E FA	ILURE	s.	THIS	FAI	LURE	ALC	NE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

EFFECT.

	FRCS-11	039X 2257A-2		NASA DATA BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11039 DIODE											
LEAD ANALYST:	D. HART	MAN										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL ITEM												
	NC	A	В	С	IIEM							
NASA [3 /3 IOA [3 /2F] [] [P] [P]	[] [P]	[] * []							
COMPARE [/N] [и] [N]	[и]	[]							
RECOMMENDATIONS:	(If d	ifferent :	from NAS	A)								
[3 /2F	.] [P] [P]	[P]	[] DD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If ap	plicable									
			:	ADEQUATE INADEQUATE	[]							
THIS FAILURE CAU POSITION. REDUN	REMARKS: THIS FAILURE CAUSES LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION											

ASSESSME ASSESSME NASA FME	1						DATA: LINE NEW									
SUBSYSTEMDAC ID:	M:		FRC 110 DIO	44												
LEAD ANA	LYST	:	D.	HARTN	IAN	ī										
ASSESSME	NT:															
		ICAL			RE	DUN	DAN	CY	sc	REEN	S			CIL		
		LIGH' W/FU			A			В			С				••	
NASA IOA	[3	/2R /1R]	[P P]	[P P]]	P P]		[]	*
COMPARE	C	/N]	[]	נ]	[]		[]	
RECOMMEN	DATI	ons:	([If d:	ifi	fere	nt	fr	om	NASA	.)					
	[3	/1R]	[P]	[N.	A]	[P)	(A	[DD/D		TE)
* CIL RE	TENT	ON	RATI	ONAL	E:	(If	aŗ	pl	ica		A		JATE JATE	[]	
REMARKS: THIS FAI THRUSTER	LURE		SES	INAB	IL	ITY	то	CL	OSE	THE	· V	ALVI	то	ISOL	ATE	E A

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMI NASA FMI	ENT	I	D:	FRC	9/88 S-1104 6KF-22		-2		1	NASA BASE	DATA LINE NEW	[] x]	
SUBSYSTE MDAC ID:				FRO 110 DIO	45									
LEAD ANA	LY	ST	:	D.	HARTMA	N								
ASSESSME	ENT	:												
	CR		ICAI LIGH	LITY	R	EDUN	IDANCY	SCF	REENS			CI		
	1		W/FU		A		В	}	C	2		IT	EM	
NASA IOA	[3	/3 /3]]]	[]	[[]		[] *	ŧ
COMPARE	[/]	[]	(]	[]		[)	
RECOMMEN	DA!	ri	ons:	(If dif	fere	ent fr	om N	(ASA)					
	[/]	[]	[]	[1		[DD/:] DELET	'E
* CIL RE	TEI	T	ION	RATI	ONALE:	(If	appl	icab	•	DEQU	ATE	[]	
REMARKS.									INA	DEQU	ATE	Ī	j	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1104		NASA DATA: BASELINE [] NEW [X]							
	FRCS 11046 DIODE									
LEAD ANALYST:	D. HARTMA	N								
ASSESSMENT:										
CRITICALI FLIGHT		EDUNDANCY	SCREE	NS	CIL					
HDW/FUN		E	3	С	ITEM					
NASA [3 /3 IOA [3 /1R] [] [P] [F]	[] [P]	[] *					
COMPARE [/] [] []	[]	[]					
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)						
[/] [] []	[] [A]	[] DD/DELETE)					
* CIL RETENTION F	RATIONALE:	(If appl	•	ADEQUATE INADEQUATE	[]					
REMARKS: LOSE CAPABILITY T REDUNDANCY PROVID ISOLATE A THRUSTE	DED. LOSS		WITH TH	HE GPC. MAN	•					

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSME ASSESSME NASA FME	ENT	ID:	FR	29/88 CS-1104 -6KF-22		-2			ASA DAT BASELIN NI		; ;		
SUBSYSTE MDAC ID:			FR 11 DI										
LEAD ANA	LYS	T:	D.	HARTMA	N								
ASSESSME	ENT:												
	CRI		ALITY	R	EDUI	NDANCY	SCF	REENS		CII			
	H	FLI IDW/	FUNC	A	В		C	:	ITEM				
NASA IOA]	3 /	3] 3]	[]	[]]	[]	[[] *		
COMPARE	[/]	[]	[]	[]	[]		
RECOMMEN	IAGI	NOI	s:	(If dif	fere	ent fr	om N	IASA)					
	(/)	[]	[]	[]	[(ADD/I] DELETE		
* CIL RI	:			IONALE:	(Ii	f appl	icab	A	DEQUATI	-]		

ASSESSMI ASSESSMI NASA FMI	ENT	II		FF	29/8 RCS-1 I-6KI	110			1						ASA BASE	LI	1E	[x]	
SUBSYSTEMDAC ID:				11	CS .048 CODE																
LEAD AND	ALYS	ST:	:	D.	HAI	RTI	IAN	1													
ASSESSMI	ENT	:																			
	CR		ICAL		<u>.</u>		RI	EDUN	DAN	1C	Y	SCRE	EN	S				C]	L EN	,	
	1		LIGH W/FU				A				В			С				1.	. Er	1	
NASA IOA			/2R /2R			[P P]		[P NA]	[P P]			[]	*
COMPARE	(/]		[]	1	[N]	[]			[]	
RECOMME	NDA'	rI	ons:		(If	d	if:	fere	nt	f	ro	m NA	SA)							
	[/	3		E]	!	[]	[]		(Al	-	/DI	-	ETE)
* CIL R		NT	ION	RAT	CION	AL	E:	(If	a	pp) 1 i	cabl			DEQU DEQU			[]	
REMARKS	:																				

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	:	FF	/29/8 RCS-: 5-6KI	11			-2							DATA ELINE NEW) x]	
SUBSYSTE MDAC ID:				11	RCS L049 CODE														
LEAD ANA	LYS'	T:		D.	НАІ	RTI	MAI	1											
ASSESSME	ENT:																		
	CRI		CALI		?		RI	EDUN	IDA.	NC	Y	SCR	EENS	3			CI:		
	H	DW/	/FUI	NC.			A				В			С					
NASA IOA	[3 / 3 /	/2R /3]	•	[P]		[[P]	[P]		[]	*
COMPARE	(/	'N]		[N]		[N]	[N]		[]	
RECOMMEN	IDAT:	ION	1S:		(If	d :	ifi	fere	nt	f	rc	m N	ASA))					
	[/	/ .]		[]		[]	(]	(A	[.DD/I		ETE)
* CIL RE REMARKS: IOA AGRE								(If	` a]	pp	li	.cab	•			JATE JATE	[]	
TOW WOME		'' '	TT T	4 7 10	44 11	يمند													

ASSESSME ASSESSME NASA FME	NT	II		FR	cs-1	10										DAT ELIN NI	ΙE]	
SUBSYSTE MDAC ID:					CS 050 ODE															
LEAD ANA	LYS	ST:	:	D.	HAF	T	(A)	ī												
ASSESSME	ASSESSMENT:																			
	CRITICALITY FLIGHT							EDUI	NDA	NC	CY	SCR	REENS	3				CI	ì	
	-						A				В			С						
NASA IOA	[3	/2R /2R]		[P P]		[P NA]	[P P]			[]	*
COMPARE	[/	1		[]		[N]	[]			[]	
RECOMMEN	IDA:	rIC	ons:		(If	d :	if	fere	ent	: 1	fro	om N	IASA))						
	[/]		[]		[]	(]		(A)	[DD/		TE)
* CIL RI	ETEI	NT:	ION 1	RAT	ION	λL	Ε:	(I:	fa	apj	p1 :	icak	ole) I	A IAN	DEQ DEQ	UAT: UAT:	E E	[]	
REMARKS:	-	NC:	ES.										_		~			•	-	

ASSESSME ASSESSME NASA FME	NT	I		FRCS	9/88 5-1105 5KF-22				1		DATA LINE NEW	[] x]
SUBSYSTE MDAC ID: ITEM:				FRCS 1105 DIOI	51								
LEAD ANA	LYS	ST	:	D. H	IARTMA	N.							
ASSESSME	NT:	:											
	CRI		[CAL LIGH	ITY	R	EDU	NDANCY	SCR	EENS			CII	_
				A		E	3	(2		ITI	≤M	
NASA IOA	HDW/FUNC NASA [3 /3] [IOA [3 /3] []]	[]]] *
COMPARE	[/]	[]	[]	[3		[]
RECOMMEN	DAI	'IC	ons:	(I	f dif	fere	ent fr	om N	'ASA)				
	[/]	[]	[]	[]	(A	[DD/[] ELETE)
* CIL RE	TEN	T)	ON	RATIO	NALE:	(If	appl	icab	Ā	ADEQU ADEQU		[]
REMARKS: NO DIFFE	REN	ICE	ES.										

ASSESSME ASSESSME NASA FME	NT	II		FR	cs-1	.10		X 57B-1	1					_		DA' ELII N		[]	
SUBSYSTE MDAC ID:	M:				CS 052 ODE																
LEAD ANA	LYS	T:	:	D.	HAI	(T)	IAN	1													
ASSESSME	NT:	;																			
	SSESSMENT: CRITICALITY FLIGHT							EDUN	DAI	4CY	SC	REE	NS	3				C]	L EN	1	
							A			В				С							
NASA IOA	([3	/2R /2R]		[P P]		(P (P]]	P P]			[]	*
COMPARE	[/]		[]		[]		[]			[]	
RECOMMEN	IDA!	rI(ONS:		(If	d	if	fere	nt	fr	om	NAS	A))							
	[/	1		[]		[]		[]		(A)] DD,	/D	EL)	ETE)
* CIL RI	ETE!	NT:	ION	RAI	CION	ΑL	E:	(If	a	ppl	ica	ble				TAU TAU		[]	
REMARKS	:																				

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	ENT ID:	FRC	9/88 5-1105 5KF-22					ATA: INE [NEW [x]
SUBSYSTE MDAC ID:		FRC: 110! DIO	53						
LEAD ANA	LYST:	D. 1	IARTMA	N					
ASSESSME	INT:								
	CRITICA FLIC	HT	R	EDUN	IDANCY	SCR	EENS	CI IT	L EM
	HDW/I	TUNC	A		В		С		
NASA IOA	. , -	R]	[P]	[P]	[P] []	[] *]
COMPARE	[/N	r j	[N]	[14]	[N]	[]
RECOMMEN	DATIONS	i: (1	f dif	fere	ent fr	om N	ASA)		
	[/]	ί]	[]	[]	[(ADD/] DELETE)
* CIL RE	TENTION	RATIO	NALE:	(If	appl	icab	le) ADEQUA INADEQUA	•]
REMARKS: IOA AGRE	ES WITH	NASA	FMEA.						

ASSESSMEN ASSESSMEN NASA FME	T	ID:	FRO	CS-1	10									SA I BASEI		[]	
SUBSYSTEM MDAC ID:	M:		FRO 110 DIC	054															
LEAD ANA	LYS'	T:	D.	HAR	(T	(A)	1												
ASSESSME																			
(RI	EDUN	DAI	NC	Y	SCR	EENS	5			CI				
	CRITICALITY FLIGHT HDW/FUNC									В			С						
NASA IOA	HDW/FUNC NASA [3 /2R] IOA [3 /2R]					P P]] [P NA]	[P P]		[]	*
COMPARE	[/]		ſ]		[N]	[]		[]	
RECOMMEN	DAT	ions:		(If	d :	if:	fere	ent	1	fro	om N	ASA)						
	[/]		[]		[]	[]	(P	DD/	DE] LE	TE)
* CIL RE	TEN	TION	RAT	ION	AL:	E:	(If	f a	pi	,1 :	icab			DEQU DEQU		_]	
REMARKS:		ICES.																	

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRCS	-110	55X 257C-	2			NASA DATA BASELINI NEV		x]
SUBSYSTIMDAC ID:			FRCS 1105 DIOD	55							
LEAD AND	ALYS	T:	D. H	IARTM	AN						
ASSESSMI	ENT:										
		TICAL		F	REDUN	DANC'	Y SCR	EENS		CII	
		FLIGH DW/FU		7	1	1	В	(C	ITI	EM
NASA IOA]	3 /3 3 /3]	[]	[]	[[]	[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	IDAT	ions:	(I	f dif	fere	nt fi	om N	ASA)			
	[/]	Ţ]	[)	[] (A	[.DD/[] DELETE)
* CIL RE	TEN'	TION 1	RATIO	NALE:	(If	app]	licab	1	ADEQUATE ADEQUATE]
DEMADEC.										L	,

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11056X 05-6KF-2269-	BASE	DATA: CLINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11056 DIODE		
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
		NDANCY SCREENS	CIL ITEM
FLIGH HDW/FU		в с	
NASA [3 /3 IOA [3 /2R] []]	[] [] [P] [P]	[] *
COMPARE [/N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If differ	rent from NASA)	
[3 /2R] [P]	[P] [P]	[] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (I	ADEQ	UATE [] UATE []
POSTTION. REDUN	DANCY PROVIDE	OF ACCURATE INDICAT ED. LOSS OF ALL RE CLOSED, POSSIBLY E	DUNDANCY MAY LEAD

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRC	9/88 S-1105 6KF-22					NASA DAT BASELIN NE		x]
SUBSYSTI MDAC ID: ITEM:			FRC: 110: DIO	57							
LEAD ANA	ALYS	T:	D. 1	HARTMA	N						
ASSESSME	ENT:										
		TICAL		R	EDUN	DANC	SCR	EENS		CI	<u></u>
		FLIGH DW/FU		A		I	3	+	С	IT	EM
NASA IOA	[3 /3 3 /3]	[]	[]	[]]	[] *
COMPARE	[/]	[]	[]	[1	[]
RECOMMEN	DAT	ions:	(1	f dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[[ADD/I] DELETE)
* CIL RE	TEN'	TION 1	RATIO	NALE:	(If	appl	icab	1	ADEQUATE ADEQUATE	[]

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	1/29/88 FRCS-11 05-6KF-	1058			NASA D BASEL]
SUBSYSTEM MDAC ID: ITEM:		FRCS 11058 DIODE						
LEAD ANAI	LYST:	D. HART	MAN					
ASSESSMEN	T:							
C	RITICAL FLIGH		REI	DUNDAN	CY SCRE	ENS	CIL	
	HDW/FU	_	A		В	С	ITE	M
NASA IOA	[3 /3 [3 /2R] [P] [p]	[] [P]	[] *
COMPARE	[/N] [N]) [N]	[N]	[3
RECOMMEND	ATIONS:	(If d	liffe	erent 1	from NA	SA)		
	[3 /2R] [P]] [P]	[P]	[(ADD/D] ELETE)
* CIL RET	ENTION 1	RATIONAL	Æ: ((If app	olicabl	e) ADEQUA' INADEQUA']

THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA DATA:

ASSESSMEI ASSESSMEI NASA FMEZ	NT II		1/29/ FRCS- 05-6K	1105					ASA DATA BASELINI NEV			
SUBSYSTEM MDAC ID:	M:		FRCS 11059 DIODE									
LEAD ANA	LYST	:	D. HA	RTMA	N							
ASSESSME	NT:											
,		ICAL LIGH	ITY	R	EDUN	DANCY	SCR	EENS		CII		
		W/FU		A		В		C	:			
NASA IOA	[3 [3	/3 /3]	[]	[]	[[]	[]	*
COMPARE	נ	/]	[]	[]	[]	[]	
RECOMMEN	DATI	ons:	(If	dif	fere	ent fro	om N	ASA)				
	[/	1	[]	[]	Į.] ([ADD/I		TE)
* CIL RE	TENT	ION	RATION	IALE:	(If	appl	icab	1	ADEQUATE ADEQUATE	-]	
REMARKS: NO DIFFE		ES.								-	-	

ASSESSMEN ASSESSMEN NASA FME	II Tr	D:	FRO	29/88 CS-110 -6KF-2									ATA: LINE NEW	[
SUBSYSTEM MDAC ID:	M:		FRO 110 DIO	060												
LEAD ANA	LYST	:	D.	HARTI	IAN	ſ										
ASSESSME	NT:															
,					RE	DUN	DAN	CY	SCRI	EENS	;			CIL		
	CRITICALITY FLIGHT HDW/FUNC							В			С					
	-						[P NA] A]	[P P]		[]	*
COMPARE	[/N]	[]	[N	3	[]		[]	
RECOMMEN	DATI	ons:		(If d	ifi	fere	nt	fr	om Na	ASA))					
	[3	/1R]		P]	[N	A]	[P]	(A)	[DD/I		ETE)
* CIL RE	TENT	PION	RAT	IONAL	E:	(If	ap	pl	icab				ATE ATE	[]	
REMARKS: LOSE CAP REDUNDAN	ARTI	ITY AUSE	TO S I	CLOSE NABIL	TI IT	НЕ V ОТ Y	ALV	E OL	WITH ATE	MAI A Ti	NUZ HRI	ALLY JSTE	. L	oss AK.	OF	ALL

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FR	29/88 CS-1106 -6KF-22				ì	IASA DA BASELI N]	
SUBSYSTE MDAC ID:			FRO 110 DIO	061									
LEAD ANA	LYS	ST:	D.	HARTMA	N								
ASSESSME	ENT:	;											
	CRI	TICAL FLIGH		R	EDUN	NDANCY	sci	REENS			:IL	•	
	F	IDW/FU		A		В		c	!	1	TEM		
NASA IOA]	3 /3 3 /3]]]	[]	[[]	[] *	
COMPARE	[/]	[1	[]	[]	[]	
RECOMMEN	DAT	'IONS:	(If dif	fere	ent fr	om 1	NASA)					
	[/]	[]	[]	[]	[(ADD	/DE] LETE	, ,
* CIL RE	TEN	TION I	RATI	ONALE:	(If	appl:	icak	A	DEQUAT DEQUAT	_	:]	
REMARKS:										_		-	

NO DIFFERENCES.

NASA DATA:

ASS	ESSM ESSM A FM	EN	T	II):	FR	CS-1	110		X 7E-1					-	SA DATA SASELINE NEW]		
	SYSI C II M:		:			11	CS .062 CODE													
LEA	D AN	IAI	ΥS	T:	:	D.	HAI	RTM	AN	Ī										
ASS	ESSM	IEN	T:	:																
		c	R		ICAI LIGH		?		RE	DUNI	ANC	Y	SCRE	ENS	5		CIL			
			F		W/FU				A			В			С					
	NASA IOA				/3 /1F] ?]]	P]]	N.]	[P]	[]	*	
COM	IPARI	Ξ	[/]		[]	[]	[]	[]		
REC	OMM	ENI	DA!	ΓI	ONS:	:	(If	di	fſ	erei	nt 1	fro	om NA	SA)					
			[/]		[]	[]	[] (A	[.DD/D	ELI	ETE)	
* (CIL I	RET	rei	NT:	ION	RA	rion.	ALE	:	(If	app	91 :	icabl			DEQUATE DEQUATE]]		
LOS	IARKS SE CA DUNDA DLATE	APA ANG	CY	P	ROV:	IDE	D.	LO	TI SS	HE V	ALVI ALI	E 1	WITH REDUN	TH IDA	E (GPC. MA Y CAUSES	NUAL INA	BI:	LITY	то

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMI ASSESSMI NASA FMI	ENT I	D:	1/29/ FRCS- 05-6K	1106		2			nasa da Basel		[) X]	
SUBSYSTEMDAC ID			FRCS 11063 DIODE										
LEAD AND	ALYST	:	D. HA	RTMA	N								
ASSESSMI	ENT:												
	CRIT	ICAL LIGH		R	EDUNI	DANC	SCR	EENS			CII		
		W/FU		A		F	3	(С		ITE	EM	
NASA IOA	[3 [3	/3 /3]	[]	[]	[]		[] *	•
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	dif	feren	ıt fr	om Na	ASA)					
	[/]]]	[]	[]	(AI	[DD/D] ELET	E)
* CIL RE REMARKS: NO DIFFE			RATION	ALE:	(If	appl	icab]	A	ADEQUAT ADEQUAT		[]	

ASSESSMEN ASSESSMEN NASA FMEA	T.	ID	:	FRC	9/88 S-1: -6KF	10	64: 25	X 7F-	-1					1				NE	[x		
SUBSYSTEM MDAC ID:	1 :			FRO 110 DIO	64																
LEAD ANA	LYS	T:		D.	HAR	TM	AN														
ASSESSME	NT:																				
			CAL]				RE	DU	NDA	NC	CY	SC	REE	NS	1				CIL		
			.IGH? I/FUI				A				В				С						
NASA IOA	[3	/2R /1R]]	P P]		[P P]]	P P]			[]	*
COMPARE	[/N]		[]		[]		[]			[]	
RECOMMEN	[ADI	ric	ons:		(If	d :	if	fer	ent	t :	fr	om	NAS	A))						
	[3	/1R]		[P]		[N	A]		[P]		(A	[.DD/I		ETE)
* CIL RE	ETEI	T	ION	RAT	CION	AL	E:	(1	[f	ap	pl	ica	able				QUA'		[]	
REMARKS: LOSE CAI CAUSES	O R	IL BI	LTY LITY	TO TC	CLO:	SE OL	T AT	HE E 2	VA A T	LV HR	E.	TE	LOSS R L	S E A	OF K.	A]	LL :	RED	UND	ANC	Y.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OPEN MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11 05-6KF-	L06	5X 57F-2						A DAT SELIN NE]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11065 DIODE											
LEAD ANALYST:	D. HART	'MAI	N									
ASSESSMENT:												
CRITICAL FLIGH	r	RI	EDUND?	ANC	CY	sc	CREENS			CIL	-	
HDW/FU	NC	A			В			С		ITE	M	
NASA [3 /2R IOA [3 /3] [P]	[P]	[P]]] *	
COMPARE [/N] [N]	[N]	[]	N j		[]	
RECOMMENDATIONS:	(If d	iff	erent	f	rc	m	NASA)					
[3 /3	_			[]	[]	(A	[DD/D1] ELETE	:)
* CIL RETENTION F	ATIONALE	ዸ:	(If a	pp	li	cal	P	ADEQI ADEQI		[]	
REMARKS: NASA FMEA CONTAIN EFFECT.	s Multif	LE	FAIL	UR	ES	•				L	HAS	NC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	ENT I	D:	FRCS-	1106				ATA: INE [NEW [X	
SUBSYSTEMDAC ID:			FRCS 11066 DIODE						
LEAD ANA	LYST	:	D. HA	RTMA	N				
ASSESSME	ENT:								
		ICAL LIGH		R	EDUN	DANCY SC	REENS	CIL ITE	
			NC	A		В	С		-
NASA IOA	[3 [3	/3 /1R]	([F]	[] [NA]	[] [P]	[] *
COMPARE	[/]	[]	[]	[]	ſ]
RECOMMEN	NDATI	ons:	(If	dif	fere	nt from	NASA)		
	[/]	[]	[]	[]	[(ADD/D] ELETE)
* CIL RI	ETENT	NOI	RATION	VALE:	(If	applica	ADEQUA	TE []
REMARKS LOSE CAI REDUNDAI ISOLATE	PABIL NCY F	ROVI	DED.	LOSS	HE V	ALVE WIT ALL REDU	INADEQUA H THE GPC. NDANCY CAUS	MANUAL	•

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMENT ASSESSMENT NASA FMEA	ID:		1106		:]	NASA DAT BASELIN NE		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 11067 DIODE								
LEAD ANALY	ST:	D. HAI	RTMA	N						
ASSESSMENT	!:									
CF	RITICAL:		R	EDUND	ANCY	SCRE	ENS		CII	
	HDW/FU		A		В	i	(c	ITE	:M
NASA [IOA [3 /3 3 /3]	[]	[]	[]	[] *
COMPARE [/]	[]	[]	ĺ]	[]
RECOMMENDA	TIONS:	(If	dif:	feren	t fr	om NA	SA)			
(/]	[]	[]	[[ADD/D] ELETE)
* CIL RETE REMARKS: NO DIFFERE		RATIONA	ALE:	(If	appl	icabl	1	ADEQUATE ADEQUATE]

ASSESSME ASSESSME NASA FME	NT	II			FR	cs-1	110)68 225	3X 57H-:	1				_		DAT ELIN NE	ΙE			
SUBSYSTE MDAC ID:	M:					CS 068 ODE														
LEAD ANA	LYS	ST	:		D.	HAI	RT1	(A)	1											
ASSESSME	NT:	:																		
	CR		[CA		ĽΤΥ			RI	EDUN	DAI	ICY	SCI	REEN	IS				CIL		
	I		N/F					A			В			C	:					
NASA IOA	[3 3	/2 /2	R]		[P P]	[P]	(I))			[]	*
COMPARE	[/]		[]		•]	-		3			[]	
RECOMMEN	DA!	ΓI	ONS	S:		(If	d:	if	fere	nt	fr	om 1	NAS	A)						
	[/]		[]		[]	1	[]		(A	[DD/I		ETE)
* CIL RE		NT	101	1	RAT	'ION	ΑL	E:	(If	a j	ppl	ica		2		TAUÇ		[]	
NO DIFFE		NC	ES.																	

ASSESSME ASSESSME NASA FME	ENT	ID:	FRCS	3-1106					NASA DAT BASELIN NE		x]
SUBSYSTE MDAC ID:			FRCS 1106 DIOD	9							
LEAD ANA	LYS	T:	D. H	IARTMA	N						
ASSESSME	ENT:										
		TICAL FLIGH		R	EDUN	IDANCY	SCF	REENS		CII	
		DW/FU		A	.	E	3	(C	ITI	EM
NASA IOA	[3 /3 3 /3]	[]	[]	[]	[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)			
	[/]	[]	[]	[[ADD/E] DELETE)
* CIL RE	TEN:	rion 1	RATIO	NALE:	(If	appl	icab	1	DEQUATE]
DEMADEC.								INA	DEQUATE	[]

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-110 05-6KF-2			NASA DATA BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11070 DIODE												
LEAD ANALYST:	D. HARTI	MAN											
ASSESSMENT:													
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
HDW/FU		A	В	С									
NASA [3 /2R IOA [2 /2] [P]	[P] []	[P] []	[x] *								
COMPARE [N /N] [N]	[и]	[N]	[N]								
RECOMMENDATIONS:	(If d	iffere	nt from N	ASA)									
[2 /2] []	[]	[] (2	[A] ADD/DELETE)								
* CIL RETENTION	RATIONAL	Æ: (If	applicab	le) ADEQUATE INADEQUATE	_								
REMARKS: THIS FAILURE CAU CAUSING LOSS OF	SES THE VERNIERS	INABIL THUS	ITY TO OP MISSION O	EN THE ISOLAT	TION VALVE,								

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	,	-1107		:		:	NASA DA BASELI	INE	•) x]	
SUBSYSTI MDAC ID: ITEM:				FRCS 1107 DIOD	1									
LEAD AND	ALY	ST	:	D. H	ARTMA	LN .								
ASSESSMI	ENT	:												
	CR		ICAI LIGH	LITY	F	EDUN	DANCY	SCF	REENS			CII ITI		
	1	HD	W/FU	NC	A		F	3	(C		T 11	rM.	
NASA IOA	[3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDA'I	rio	ons:	(I:	f dif	fere	nt fr	om N	ASA)					
	[/]	[]	ξ]	[]	(AI	[DD/I		ETE)
* CIL RE REMARKS: NO DIFFE				RATIO	VALE:	(If	appl	icab	A	DEQUAT		[]	
MO DILLE	KLN	いしよ	.o.											

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/88 FRCS-110 NONE	72X		NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11072 DIODE					
LEAD ANALYST:	D. HARTM	AN				
ASSESSMENT:						
CRITICA		REDUNDAN	CY SCREEN	IS	CIL	•
FLIC HDW/I		A	В	С	110.	•
NASA [/ IOA [3 /1] [.R] [] [P] [] {	[] [P]	[] *]
COMPARE [N /] [и] [N]	N]	[]
RECOMMENDATIONS	: (If di	fferent	from NAS	A)		
[3 /:	.R] [P] [NA]	[P] (A	[DD/DI] ELETE)
* CIL RETENTION	RATIONALE	: (If ap	plicable;) ADEQUATE INADEQUATE	[]
REMARKS: DIODES NOT ADDI INTO A FMEA.	RESSED BY A	FMEA.	IOA RECO	MMENDS THEI	R IN	CLUSION

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI ASSESSMI NASA FMI	ENT	ID	TE:	1/29/ FRCS- NONE	88 1107	′3X]		DATA LINE NEW	[]	
SUBSYSTE MDAC ID:				FRCS 11073 DIODE										
LEAD ANA	LYS	T:		D. HA	R TMA	N								
ASSESSME	ENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C														
	H	DW,	/FUN	iC	A	•	E	;	(2		TILL	•	
NASA IOA	[3 /	/ /3]	[]	[]	[]		[] *	
COMPARE	[]	N /	/N]	[]	[]	[]		[]	
RECOMMEN	DAT:	IOI	1S:	(If	dif	fere	nt fr	om N	IASA)					
	[:	3 /	/3	1	[]	[]	[]	(AD	[D/DE] LETE)	
* CIL RE	TEN:	ric	ON R	ATIONA	LE:	(If	appl	icab	A	DEQUA		[]	
REMARKS: DIODES N INTO A F	OT A	ADE	RES	SED BY	. A 1	FMEA.	IO	A RE	COMME	NDS 1	THEIR	INC	LUSION	

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI	SSESSMENT DATE: 1/29/8 SSESSMENT ID: FRCS-1 ASA FMEA #: NONE													ATA: LINE NEW	[]	
SUBSYSTI MDAC ID: ITEM:				FRO 110 DIO	74									-			
LEAD AND	ALYS	ST	;	D.	HARTI	(A)	1										
ASSESSMI	ENT	:															
	CR		[CAL]			RI	EDUN	DAN	CY	SCR	EENS	3			CIL		
	1		LIGHT V/FUI			A			В			С			115	rı	
NASA IOA	[3	/ /1R]	[P]	[N <i>P</i>]	[[P]		[]	*
COMPARE	[N	/N]	[N]	ĺ	N]	(N]		[]	
RECOMME	NDA'	rI	ons:		(If d	if:	fere	nt	fro	om N	IASA))					
	[3	/1R]	[P]	(N2	A]	[P	3	(A)	[DD/E] ELE	ETE)
* CIL R	ETE:	NT:	ION 1	RAT:	IONAL	E:	(If	ap	pl:	icak				ATE	_]	
REMARKS DIODES	TON		DDRE:	SSE	D BY	A :	FME <i>A</i>	١.	IO	A RI			-	ATE THEI	-	_	JSION

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:			′5X					DATA: ELINE NEW	[
SUBSYSTI MDAC ID: ITEM:				FRCS 11075 DIODE									
LEAD AND	ALY	ST	:	D. HA	RTMA	N							
ASSESSMI	ENT	:											
	CR		ICAL:	ITY	R	EDUN	DANCY	SCI	REENS			CIL	
	1			NC I	A		E	3	С			ITE	M
NASA IOA	[3	/3]	[]]]	[]]] *
COMPARE	[N	/N]	[]	[]	1]		[]
RECOMMEN	IDA:	ric	ONS:	(If	dif	fere	nt fr	om N	NASA)				
	[3	/3]	[]	[]	[]		[D/DI] ELETE)
* CIL RE	ETE	NT]	ON I	RATIONA	ALE:	(If	appl	icab	•			_	_
REMARKS:											ATE ATE	[]
DIODES N INTO A F	TOT	ΑΙ \.	DDRES	SSED BY	A	FMEA.	. 10	A RE	ECOMMEN	DS	THEIR	INC	CLUSION

SUBSYSTEM MANAGER STATED THAT THE DIODES WERE PART OF THE MANIFOLD ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSME	SSESSMENT DATE: 1/29/ SSESSMENT ID: FRCS- ASA FMEA #: 05-6K UBSYSTEM: FRCS]		DA DAT ASELIN NE		[]	
SUBSYSTE MDAC ID:				11	CS 076 RCUI	T	BR	REAKI	ER											
LEAD ANA	ALYS	ST:	:	D.	HAR	T	IAN	ī												
ASSESSMI	ENT:	:																		
	CR		CAL		7.		RE	EDUNI	OAN	CY	sc	REE	NS				CI Tr	L CEN	4	
	F	LIGH! N/FUI				A			В				С				,	•		
NASA IOA			/1R /1R]		[P P]	[P	A]		[P P]		[]	*
COMPARE	[/]		[]	[N]		[]		[]	
RECOMME	NDA'	ΓI	ons:		(If	d :	if	fere	nt	fr	om	NAS	A)							
	[/]		[]	[3		[]	(Al		/ DI		ETE)
* CIL R		NT:	ION :	RAT	rion	AL	E:	(If	aŗ	p1	ica				EQUAT EQUAT		[]	

IOA AGREES WITH NASA FMEA.

NASA DATA:

ASSESSMENT DATE: 1/29/88

ASSESSMENT ID: NASA FMEA #:	FRCS-11 05-6KF-	.077X ·2280-2		BASELII N	NE [] EW [X]
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11077 CIRCUIT	BREAKE	R		
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICA FLIG		REDUND	ANCY SCR	EENS	CIL ITEM
HDW/F	UNC	A	В	С	LILM
NASA [3 /1 IOA [3 /3	R] [P]	[F] []	[P] []	[X] * []
COMPARE [/N] [N]	[N]	[N]	[N]
RECOMMENDATIONS	: (If d	ifferent	t from N	ASA)	
[3 /3) []	[]	[] ([D] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicab	le) ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONTA EFFECT.	INS MULTI	PLE FAII	LURES. 1		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-110 NONE	78X		NASA DATA: BASELINE NEW	[]							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11078 MICROSWI	гсн											
LEAD ANALYST:	D. HARTM	AN											
ASSESSMENT:													
CRITICAL	NS	CIL ITEM	İ										
FLIGH HDW/FU		A	В	С									
NASA [/ IOA [3 /2R] [] [P] [p]	[] [P]	[] *]							
COMPARE [N /N] [и]2880Н[[N]	[и]	[]							
RECOMMENDATIONS:	(If di	fferent i	from NAS	A)									
[3 /2R] [P] [P]	[P] (Al	[DD/DE] LETE)							
* CIL RETENTION	RATIONALE	: (If app) ADEQUATE INADEQUATE	[]							
REMARKS: SWITCH NOT ADDRE INTO A FMEA.	SSED BY A	FMEA.	IOA RECO	MMENDS ITS	INCLU	JSION							

SUBSYSTEM MANAGER STATED THE MICROSWITCH WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11					DATA: ELINE NEW	[]
	FRCS 11079 MICROSW	ІТСН						
LEAD ANALYST:	D. HARTI	MAN						
ASSESSMENT:								
CRITICAL		REDUND	ANCY	SCREEN	s		CIL	
FLIGH HDW/FU		A	В		С		ITEM	1
NASA [/ IOA [3 /2R] [P]	[[P] [P]		[] *]
COMPARE [N /N] [N]	[N] [n j		[]
RECOMMENDATIONS:	(If di	ifferen	t from	m NASA)			
[3 /2R] [Pj	[P] [P]	· (AD	[DD/DE] CLETE)
* CIL RETENTION I	RATIONALE	E: (If a	applio	cable)				
REMARKS:				I	ADEQU VADEQU		[]
SWITCH NOT ADDRES	SSED BY A	FMEA.	IOA	RECOM	MENDS	ITS I	NCLU	SION

ASSESSM	ASSESSMENT DATE: 1/29/ ASSESSMENT ID: FRCS- NASA FMEA #: 05-6K														SA BASE	LIN	E	[x		
SUBSYST				11	080	&	FU	ISO	L	ΛΓ	V A	OR	Е	s	WIT	СН				
LEAD AN	ALY	ST	:	D.	HAR	(T	IAN	Ī												
ASSESSM	ENT	:																		
	CRITICALITY FLIGHT HDW/FUNC						RE A	DUNE	AN	CY B		REE	NS	c				CIL		
			•					,	,				r	_	1			r	1	*
NASA IOA	[3	/1R /1R)]		[P]	[P]		[P]			[]	
COMPARE	[/]		(]	(]		(1			[]	
RECOMME	NDA	TI	ons:		(If	d	if	ferei	nt	fr	om	NAS	A))						
	[/]		[]	{	•]		[]	1	(Al	[DD/D	EL	ETE)
* CIL F	ETE	NT	ION :	RAT	ION	AL	E:	(If	aŗ	pl	ica	ble			DEQU DEQU]	
REMARKS	:																			

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-1108 05-6KF-20	21X 226-2	NASA DATA BASELINE NEW	
MDAC ID:		U ISOL VLV A OR	B SWITCH	
LEAD ANALYST:	D. HARTMA	.N		
ASSESSMENT:				
FLIGH	r	EDUNDANCY SCREEN	S	CIL ITEM
HDW/FUI	VC A	В	С	
NASA [3 /1R IOA [2 /1R] [P] [P] [P] P]	[x] *
COMPARE [N /] [] [] []	[N]
RECOMMENDATIONS:	(If dif	ferent from NASA)	
[2 /1R] [P] [P] [[A] DD/DELETE)
* CIL RETENTION F	RATIONALE:	•	ADEQUATE NADEQUATE	į j
REMARKS: WITH VALVE CLOSED VALVE MOVEMENT.	LOSS OF AI	ACROSS CLOSE COL LL REDUNDANCY CAL	NTACTS PREV	ENTS FURTHER
PROPELLANTS TO ME			ITY FOR A F	'AILED CLOSED

REPORT DATE 2/26/88 C-1342

HELIUM ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW											
MDAC ID:	FRCS 11082 HE OX & FU ISOL	VLV A OR B SWITCH											
LEAD ANALYST:	D. HARTMAN												
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
_ :	NC A	ВС											
NASA [3 /1R IOA [2 /1R] [P] [] [P]		[x] *										
COMPARE [N /] [] [] []	[N]										
RECOMMENDATIONS:	(If different	from NASA)											
[2 /1R] [P] [P] [P] (A	[A] DD/DELETE)										
* CIL RETENTION	RATIONALE: (If ap	pplicable) ADEQUATE INADEQUATE	[]										
REMARKS: WITH VALVE CLOSE VALVE MOVEMENT.	D, A SHORT ACROSS LOSS OF ALL REDU	CLOSE CONTACTS PRE	VENTS FURTHER LITY TO EXPEL										

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED CLOSED HELIUM ISOLATION VALVE.

PROPELLANTS TO MEET CG LIMITS.

ASSESSMI ASSESSMI NASA FMI	ENT :	ID:		1108	33X)26 - 2				NASA DATA BASELINE NEW]		
SUBSYSTI MDAC ID ITEM:			FRCS 11083 HE OX	& F	TU IS	OL AL	V A OI	R E	3 SWITCH				
LEAD AND	ALYS'	r:	D. HA	RTMA	M								
ASSESSMENT:													
	CIL ITE												
	HI	DW/FUI	NC	A	1	В			С				
NASA IOA		3 /1R 3 /3]	[F)]	[P []	[P]	[] *]		
COMPARE	[/N]	[N	ı j	[N]	[N]	[1		
RECOMMEN	NDAT	IONS:	(If	dif	fere	nt fro	om NAS	SA)					
	[:	3 /3]	[]	[]	[[DD/D] ELETE)		
* CIL RI	ETENT	rion 1	RATION	ALE:	(If	appl	icable	•	ADEQUATE ADEQUATE	-]		
REMARKS: THIS FAI	-	E HAS	NO EFI	FECT	·				-	-	J		

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FMEA	T II):	FRCS	-11	.08	4X 26-1	l.						DATA: LINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	i :		FRCS 1108 HE O	4 X &	F	u is	SOL	ΔΓ	V A	OR :	вѕ	riwa	CH			
LEAD ANAL	YST	:	D. H	AR?	MA	N										
ASSESSMENT:																
c		ICAL			R	EDUI	NDA	NCY	sc	REEN	S			CII		
		W/FUI	_		A			В			С					
NASA IOA	[3	/1R /1R]		[P]		[P]]]	P P]		[]	*
COMPARE	[/	1		[]		[]	[]		[]	
RECOMMENI)ATI	ons:	(1	f	dif	fer	ent	fr	om	NASA	.)					
	[/]		[)		[]	(]	(A	[.DD/1	DELJ]	ETE)
* CIL RET	CENT	ION	RATIC	NA	LE:	(I	fa	ppl	ica		A		JATE JATE]	
REMARKS:	RENC	ES.														

ASSESSME ASSESSME NASA FME	D:		-110			L					SA DA BASELI N	NE	[[X]		
SUBSYSTEMDAC ID:	M:		FRCS 11085 OX &		T	K IS	SOL '	VĽ	7 1/	2 SV	VIT	СН				
LEAD ANA	LYST	!:	D. HA	ARTM	(A)	N										
ASSESSME	NT:															
•	F	ICAL: LIGH: W/FUI	r		RI A	EDUN	IDAN(CY B	SCR	EENS	c			CIL ITEM	ſ	
NASA IOA	[3	/1R /1R]	[P P]	[P NA]	[P P]	 	[]	*
COMPARE	[/]	[]	[N]	[]	1	[]	
RECOMMENI	DATI	ONS:	(If	di	fí	fere	nt :	fro	om Na	ASA)						
•	[/]	[]	[]	[]] Id A)	[D/DE] LE	TE
* CIL RET	TENT	ION F	NOITAS	ALE	:	(If	app	pli	.cab:			EQUATI EQUATI		•]	

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	X 8-2								DAT ELIN NE	E] [X]								
SUBSYSTEM MDAC ID: ITEM:					086	U	TH	(IS	OL	V	/LV	1,	/2 S	WI	тсн					
LEAD ANA	LYS	T:		D.	HAF	(T	(A)	ī												
ASSESSMEN	T.																			
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C															CII					
		_					A				В			C	:					
NASA IOA	[3 3	/1R /1R]		[P P]		[[P NA]	[[F	'] ']			[[]	*
COMPARE	[/)		[]		[N]	[]			[]	
RECOMMEN	DAT	'IC	ns:		(If	d :	if	fere	ent	1	fro	m l	NASA	.)						
	[/]		[]		[]	[]	(AC	[D/I		ETE)
* CIL RE	TEN	T	ON 1	RAT	ION	ΑL	E:	(If	a	pı	pli	.cal		P	DEC	QUATE QUATE	2	[]	
REMARKS:	REN	ici	Es.										_	.112	, DE	(ULL L	•	ι	J	

ASSESSME ASSESSME NASA FME	NT ID:	FRCS-1	108				ì	NASA DATA BASELINE NEW						
SUBSYSTEM MDAC ID:		FRCS 11087 OX & F	U T	K ISO	r Ar	V 1/2	swi	тсн						
LEAD ANA	LYST:	D. HAR	TMA	N										
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CT														
(CII													
	HDW/FU	JNC	A		В		C	2						
NASA IOA	[3 /1H [3 /1H	R]	[P]	[P]	[F	?]	[}	(] *				
COMPARE	[/]	[1	[N]	[1	[]	1]				
RECOMMEN	DATIONS:	(If	dif	feren	t fr	om NA	SA)							
	[/]	[]	[]	[[DD/I] DELETE)				
* CIL RET				(If a	appl	icabl	À	DEQUATE]				
IOA AGREI	ES WITH	NASA FM	EA.											

ASSESSMEN ASSESSMEN NASA FMEA	IT I	D:	1/29/ FRCS- 05-6F	-1108					ASA DA' BASELII Ni			
SUBSYSTEM MDAC ID: ITEM:	1:		FRCS 11088 OX &		ĸ IS	or ar	7 1/2	2 SWIT	гсн			
LEAD ANAI	LYSI	r:	D. H2	ARTMA	N							
ASSESSMEN	T:											
(rical]		R	EDUN	DANCY	SCRI	EENS		CII		
		W/FUN		A	•	В		С				
NASA IOA	[3	3 /1R 3 /1R]	[F]	[P [P]	[P [P]	[] *]	
COMPARE	[/	1	[]	[]	[]	[]	
RECOMMEN	DAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[]	[(ADD/I		E)
* CIL RE	TEN'	TION 1	RATIO	NALE:	(If	appl	icab	A	DEQUAT DEQUAT]	
REMARKS:												

ASSESSME ASSESSME NASA FME	NT	ID:		1108				ì	NASA DA' BASELII N	NE [; ;
SUBSYSTE MDAC ID: ITEM:	M:		FRCS 11089 OX &	FU 1	rk is	OL VI	LV 1/	'2 SW]	тсн		
LEAD ANA	LYS	T:	D. HA	RTMA	\N						
ASSESSME	NT:										
	3	FICALI FLIGHT DW/FUN	r	F		DANCY				CII ITE	
		•		_,	-			C			
NASA IOA	[:	3 /1R 3 /1R]	[F	,]	[F	']]])]	[[] *
COMPARE	[/]	[)	[]	[]	[]
RECOMMEN	DAT]	cons:	(If	dif	fere	nt fr	om N	ASA)			
	[/	1	[]	[3	ľ		[ADD/D] ELETE
* CIL RE	rent	rion R	MOITAS	ALE:	(If	appl	icab	A	DEQUATE DEQUATE]
REMARKS:								TNV	PHONIE	· L	J

NASA DATA:

ASSESSME ASSESSME NASA FME	NΤ	II		FRO	CS-1	10		X 9-1						SA BASE	LIN	ΙE	[x		
SUBSYSTE MDAC ID: ITEM:				FRO 110 OX	090	U	TF	(ISO	L,	VL/	7 3/4/	/5	SW	ITC	:H 2	24			
LEAD ANA	LYS	ST	:	D.	HAF	(T	IAN	Ī											
ASSESSME	NT	:																	
CRITICALITY REDUNDANCY SCREENS FLIGHT															CIL				
FLIGHT HDW/FUNC A B C																			
NASA IOA	[3	/1R /1R]		[P P]	[P P]]	P P]			[]	*
COMPARE	[/]		[]	[]	[]			[]	
RECOMMEN	IDA'	TI	ons:		(If	đ	if	feren	t	fr	om NA	SA)						
	[/]		[]	[]	[]		(A	[DD/E		ETE)
* CIL RI	ETE	NT	ION :	RAT	ION	ΑL	E:	(If	ap	pl	icabl			DEQI			-]	
REMARKS		NC	ES.																

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	FRCS	-1109					NASA DAT BASELIN NE		x]		
SUBSYSTE MDAC ID:			FRCS 1109: OX &		rk is	SOL VI	ĽV 3/	4/5	SWITCH 2	4			
LEAD ANA	ALYS	T:	D. H	ARTM	AN								
ASSESSME	ENT:												
	CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												
	Н	DW/FUI	NC	P	1	E	3		С				
NASA IOA	[3 /1R 3 /1R]	[F	?] ?]	[F))	[[P] P]	[] *		
COMPARE	ſ	/]	[]	[]	[1	[]		
RECOMMEN	DAT:	ions:	(II	dif	fere	nt fr	om N	ASA)					
	(/]	[]	[]	[[ADD/I] DELETE)		
* CIL RE	TEN'	TION F	RATION	ALE:	(If	appl	icab		ADEQUATE ADEQUATE]		
REMARKS:								T 14	WDE COULT	L	J		

ASSESSME ASSESSME NASA FME	NT I	D:	FRO	CS-1	10								SA D SASEL		[X]	
SUBSYSTE MDAC ID: ITEM:			FRO 110 OX	92	U	TK	: ISO	L '	VL/	7 3/4/	′5	SW	/ITCH	24				
LEAD ANA	LYST	!:	D.	HAR	T	IAN	Ī											
ASSESSME	NT:																	
CRITICALITY REDUNDANCY SCREENS FLIGHT														CI IT		[
	_	W/FUI				A			В			С					•	
NASA IOA	[3	/1R /1R]		[P P]	[P P]]	P P]		[]	*
COMPARE	[/	3		[]	[]	[]		[]	
RECOMMEN	DATI	ons:		(If	đ:	iff	eren	it	fro	om NA	SA))						
	[/]		[]	[]	[]	(A)				ETE)
* CIL RE	TENT	TION 1	RAT:	ION?	L	Ε:	(If	ap	pl:	icable		IA IAN	DEQUA	TE TE	[]	
REMARKS:																		

IOA AGREES WITH NASA FMEA.

ASSESSME NASA FME	NT	I	D:	FF	29/ RCS- 5-6K	11			2					I		EELI:	NE	:] K]	[]	
SUBSYSTE MDAC ID: ITEM:	M:			11	RCS .093	FU	T	ΚI	soi	ւ ւ	ΛΓ	V 3	3/4/	5 S	riwa	гсн :	24			
LEAD ANA	LYS	ST:	:	D.	HA	RTI	MA	N												
ASSESSMENT:																				
	CR]		ICAL: LIGH:				R	EDU	NDA	M	CY	sc	REE	NS				CIL	-	
	ŀ						A				В			C	2					
NASA IOA	HDW/FI NASA [3 /1] IOA [3 /1]					[P P]		[P P]		[I	?] ?]			[]	*
COMPARE	[/]		[]		[]		(]			[]	
RECOMMEN	rad	·IC	ons:		(If	d:	if	fer	ent	: 1	fro	om	NAS	A)						
	[/]		[3		[]		[)	i	(AC	[D/D		ETE
* CIL RE	TEN	T)	ON I	TAS	ION	ALI	€:	(I	f a	pp	11	ica	-	A		UAT! UAT!		[]	
REMARKS:													x	,	_		J			

ASSESSMEN ASSESSMEN NASA FME	NT I	D:	FRCS-	1109					NASA DA' BASELII N	NE	[x	
SUBSYSTEM MDAC ID:	M:		FRCS 11094 OX & 1	FU T	K ISO	r ar	7 3/4/	/5 :	SWITCH :	24		
LEAD ANA	LYSI	1:	D. HAI	RTMA	N							
ASSESSME	NT:											
(F	CICALI LIGHT		R: A		ANCY B	SCREI		С		CIL	
NASA IOA	[3	/1R /1R]	[P]	[P]	[P] P]		[[] *
COMPARE	[/]	[]	C]	[]		[]
RECOMMEN	DATI	ons:	(If	dif	feren	t fro	om NAS	SA)				
	[/]	[]	[J	[]	(AD	[D/D] ELETE)
* CIL RE	rent	ION F	RATION	ALE:	(If	appl:	icable		ADEQUAT ADEQUAT		[]
REMARKS:									-		_	₹

ASSESSMEN ASSESSMEN NASA FME	NT I	D:	FRCS-	1109					ASA DATA BASELINE NEW			
SUBSYSTEM MDAC ID:	M:		FRCS 11095 MANIFO	DLD	1, 0	X & F	u is	OL AL	V SWITCH	I 30		
LEAD ANA	LYST	:	D. HAI	RTMA	M							
ASSESSME												
(CII	_									
		W/FUI		F	-	В		С				
NASA IOA	[3	/1R /1R]	[I	?] ?]	[P]	[P [P]]] *]	
COMPARE	[/]	[]	[1	[]	[3	
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[] (2] ELETE)
* CIL RET			RATION	icab	A	DEQUATE DEQUATE]				
NO DIFFE	KENC	ES.										

ASSESSME ASSESSME NASA FME	MTT	TT	١.	FRCS-1	109	96 03	X 0-2						SA DATA: BASELINE NEW		x]	
SUBSYSTE MDAC ID: ITEM:				FRCS 11096 MANIFO	LD	1	, ox	&	FU	I ISO	L \	/LV	SWITCH	30)		
LEAD ANA	LYS	ST:	;	D. HAR	TM	AN	ī										
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL																	
CRITICALITY REDUNDANCY SCREENS CIL ITEM																	
48.2.2. 44																	
NASA IOA	[3 2	/1R /1R]	[P P]	[P P]	[[P P]	[X] *]	•
COMPARE	[N	/	1	[1	[]	[]	[N]	
RECOMMEN	IDA'	TI	ons:	(If	di	fí	ferent	: :	fro	om NA	SA)					
	[2	/1R	1	[P]	1	P]	[P) (A		A /DI] ELET	TE)
* CIL RE	ETE	NT	ION :	RATION	ALE	:	(If a	ap)	pl:	icabl			DEQUATE DEQUATE	-]	
REMARKS:	AL			NDANCY	CA	US	SES II	NA.	BI	LITY	то	E	XPEL PRO	PΕ	LL	ANTS	S TO

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED CLOSED HELIUM ISOLATION VALVE.

ASSESSMI ASSESSMI NASA FMI	ENT	'I	D:	FRO	29/88 CS-11 -6KF-	097	х 0-	·2]		A DA		[]	
SUBSYSTI MDAC ID: ITEM:				FRO 110 MAN		D 1	,	ох	&	F	U I	SOL	V]	LV :	SWI	гсн	30)		
LEAD AND	ALY	ST	:	D.	HART	NAN														
ASSESSMENT:																				
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEN HDW/FUNC A B C																7				
FLIGHT														11	EM					
NASA IOA	[3 2	/1R /1R]] [P P]]		[P P]		[E))			[X] *	
COMPARE	[N	/]	ί	,]		[]		[]			[N]	
RECOMMEN	IDA'	ΓI	ONS:	(If di	ffe	er	ent	: 1	rc	om l	NAS	A)							
	[2	/1R]	[P]		[P]		[F	']		(AI	[)D/] LET:	E)
* CIL RE	TEI	NT]	ON I	RATI	ONALE	: ((I:	fa	pp)l i	.cal	•	A		TAU TAU		[]	
REMARKS: LOSS OF MEET CG	ALI LIN	L F	REDUN	IDAN	CY CA	USI	ES	IN	ΑE	SII	ΙΤΊ				_		•	LA	NTS	то

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR A FAILED CLOSED HELIUM ISOLATION VALVE.

ASSESSMENT ASSESSMENT NASA FMEA	r II):	FRCS-11098X BASELINE								x]	
SUBSYSTEM MDAC ID: ITEM:	:		FRCS 11098 MANIFO	1098 MANIFOLD 1, OX & FU ISOL VLV SWITCH								
LEAD ANAL	YST	:	D. HAI	RTMAI	N							
ASSESSMEN'	r:											
CI		[CAL]	TY T	R	EDUNDA	ANCY	SCREE	ens		CI II	IL TEM	
	HDV	V/FUN	iC	A		В		(2			
NASA IOA	[3 [3	/1R /1R]	[P]	[P]	[]	P] P]	[]	*
COMPARE	[/]	[]	[]	[]	[]	
RECOMMENDA	ATIC	ons:	(If	dif:	ferent	fro	om NAS	A)				
	[3	/3]	[]	[]	[]	[(ADD/	DELI	ETE)
* CIL RET	ENT	ON F	RATIONA	ALE:	(If a	appl	icable		ADEQUATI ADEQUATI	E []	
THIS FAIL	JRE	HAS	NO EFI	ECT	. swi	тсн	IS EA	SI	LY CORRI	ECTAE	BLE.	

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW [X]									
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11099 MANIFOLD 1, OX & FU ISO	OL VLV SWITCH 30									
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICALI FLIGHT	י	ITEM									
HDW/FUN	IC A B	С									
NASA [3 /1R IOA [3 /1R] [P] [P]] [P] [P]	[P] []* [P] []									
COMPARE [/] [] []	[] []									
RECOMMENDATIONS:	(If different from Na	ASA)									
[/	[] []	[] [] (ADD/DELETE)									
* CIL RETENTION F REMARKS: NO DIFFERENCES.	RATIONALE: (If applicab)	le) ADEQUATE [] INADEQUATE []									

]

ASSESSMEN ASSESSMEN NASA FMEA	T II	D:	1/29/FRCS- 05-6K	1110]					
SUBSYSTEM MDAC ID: ITEM:	1:		FRCS 11100 MANIF	OLD	2, 0	X & F	u is	OL VL	V SWI	гсн	31	
LEAD ANAI	LYST	:	D. HA	RTMA	N							
ASSESSMEN	NT:											
C		ICAL		R	EDUN	DANCY	SCR	EENS			CIL	
			ИС	A		В		С				
NASA IOA	[3 [3	/1R /1R]	[P]	[P [P]	[P [P]		[] *
COMPARE	[/]	ĺ]	[]	[]		[1
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om N	ASA)				
	[/]	[]	[]	[]	(A)	[DD/D] ELETE)
* CIL RE	TENT	ION 1	RATION	ALE:	(If	appl	icab	A.	DEQUA DEQUA]
REMARKS:									-		•	-

ASSESSME ASSESSME NASA FME	NT NT A	D I #:	ATE: D:	1/29/ FRCS- 05-6K	1/29/88 NASA DAT FRCS-11101X BASELIN 05-6KF-2030-2 NE								NE						
SUBSYSTE MDAC ID:				11101	1101 MANIFOLD 2, OX & FU ISOL VLV SWITCH								СН	3:	L				
LEAD ANA	LY	ST	:	D. HA	RTI	IAN	4												
ASSESSME	NT	:																	
	CR:		ICAL:	ITY T		RI	EDUND	Aì	1C	Y	SCRI	EEN	s				L CEN		
	1			NC		A			,	В			С			Δ.	L	1	
NASA IOA	[3 2	/1R /1R]	[P P]			P P]	[P P]		[x]	*
COMPARE	[N	/]	[]	1	•]	[]		[N]	
RECOMMEN	DA!	ri(ons:	(If	di	ifi	feren	t	f	rc	m N2	ASA)						
	[2	/1R]	[P]	(P]	[P			[\QC			TE)
* CIL RE	TEI	YT:	ION I	RATION	ALE	Ē:	(If	aŗ	g.	li	.cab]	•		DEQUATI]	
REMARKS: THIS FAI:												PEN	TH		Æ.				

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 2 ISOLATION VALVE.

LIMITS.

ASSESSMEN ASSESSMEN NASA FMEA	TI	D:	FRCS-	1110	2X 30-2					A DATA: SELINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	[:		FRCS 11102 MANIFO	OLD :	2, OX	& F	u Iso	נ ע	/LV s	SWITCH	31			
LEAD ANAI	YSI	?:	D. HAI	RTMA	N									
ASSESSMEN	T:													
c		'ICAL		R	EDUND#	NCY	SCRE	ENS	3		CI IT	L EM		
	_		NC	A		В			С					
NASA IOA	[3	/1R /1R]	[P]	[P]	[[P] P]]	x] *	k
COMPARE	[]	1 /	1	[1	[1	[]		[N]	
RECOMMEND	ATI	ons:	(If	dif	ferent	. fr	om NA	SA))					
	[2	2 /1R]	[P]	[P]	[P]	(Al		A DE		ΓE)
* CIL RET	ENT	TION 1	RATION	ALE:	(If a	appl	icabl		ADE(QUATE QUATE	[]	
REMARKS: THIS FAIL	URI	E CAU	SES LO	ss I	NABIL:	ΙΤΥ	TO OP	EN	THE	VALVE	•	LO	SS	OF

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 2 ISOLATION VALVE.

ALL REDUNDANCY CAUSES INABILITY TO EXPEL PROPELLANTS TO MEET CG

LIMITS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1110	3X 30-2		NASA DATA BASELINE NEW]
SUBSYSTEM:	FRCS 11103			VLV SWITCH	•	•
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
FLIGH:					CIL	ſ
HDW/FU	NC A		В	С		
NASA [3 /1R IOA [3 /1R] [P] [P] [P] P]	P] P]	[] *]
COMPARE [/] [] [] []	[]
RECOMMENDATIONS:	(If dif	ferent f	rom NASA	A)		
[3 /3] [] [) ([DD/DE] LETE)
* CIL RETENTION F	RATIONALE:	(If app	•	ADEQUATE NADEQUATE	[]
THIS FAILURE HAS	NO EFFECT	. SWITC	H IS EAS	SILY CORRECT	TABLE	

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMEN ASSESSMEN NASA FME	T I	D:	FRCS-	1/29/88 FRCS-11104X 05-6KF-2030-1								NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM MDAC ID:			FRCS 11104 MANIF	OLD) 2	e, ox	₹ &	FU	J ISO	L V	/LV	SWITC	СН	31			
LEAD ANA	LYST	:	D. HA	RTM	IAN	ī											
ASSESSME	NT:																
•		ICAL			RE	EDUNI	OAN	CY	SCRE	ENS	3			CII			
	_	LIGHT W/FU			A			В			С						
NASA IOA	[3	/1R /1R]	[P P]	[P P]	[P P]		[]	*	
COMPARE	[/	1	[]	[]	[]		[]		
RECOMMEN	DATI	ons:	(If	di	Ĺfí	fere	nt	fr	om NA	SA)						
	ι	/]	[)	[]	(]	(Al	[DD/I] DELE	TE)	
* CIL RE	TENT	'ION	RATION	ALI	€:	(If	ap	pl.	icabl			DEQUAT DEQUAT		[]		
REMARKS:																	

ASSESSME ASSESSME NASA FME	NT 3	ID:	FRCS	-111		NASA DATA: BASELINE [] -1 NEW [X]							
SUBSYSTEM MDAC ID:	M:		FRCS 1110 MANI	5	3,	OX & I	TU IS	OL VL	V SWITC	CH 32			
LEAD ANA	LYSI	r:	D. H	ARTM	AN								
ASSESSME	NT:												
(F	ricali Flight	ľ			NDANCY		REENS		CII			
	HI	OW/FUN	1C	j	A	F	3	С					
NASA IOA	[3	3 /1R 3 /1R]	[]	P] P]	[F)	[P]	[[] *		
COMPARE	[/]	[]	[]	[]	[]		
RECOMMENI	DATI	ons:	(I	f di	ffer	ent fr	om N	ASA)					
	[/	J	C]	[]	[]	[(ADD/I) DELETE		
* CIL RET	rent	CION F	OITAS	NALE	: (I:	f appl	icab	A	DEQUATE DEQUATE]		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11106 05-6KF-203	5X 30-2	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	11106	3, OX &	FU ISOL V	VLV SWITCH	32						
LEAD ANALYST:	D. HARTMAN	1									
ASSESSMENT:											
CRITICAL: FLIGH	ITY RI	EDUNDANC	Y SCREENS	S	CIL ITEM						
HDW/FUI			В	С							
NASA [3 /1R IOA [2 /1R] [P]] [P] [P] [P] P]	[x] *						
COMPARE [N /] [] [] [1	[N]						
RECOMMENDATIONS:	(If dif	ferent f	rom NASA)							
[2 /1R] [P] [P] [P] (AI	[A] DD/DELETE						
* CIL RETENTION 1	RATIONALE:	(If app		ADEQUATE NADEQUATE	[]						
REMARKS: THIS FAILURE CAUSES			PEN THE	VALVE. LOS	S OF ALL						

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 3 ISOLATION VALVE.

LIMITS.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11107X NASA FMEA #: 05-6KF-2030-							-2								ELI		[]			
SUBSYSTEM MDAC ID: ITEM:	1 :			11	CS 107 NIF	D:	3,	ох	&	FU	J]	ISOL	, 7)L\	7 S	WIT	гсн	32	2			
LEAD ANAI	LY:	ST	:	D.	HAI	RTI	IAM	V														
ASSESSMEN	T	:																				
c	R.		ICAL:				RI	EDI	JNDA	ANG	CY	s	CREE	NS	3					IL PEN	1	
	1	HDI	W/FUI	NC			A				В				С							
NASA IOA]	3 2	/1R /1R]		[P P]		[P P]		[P P]			[x]	*
COMPARE	[N	/]		[]		[]		[]			[N]	
RECOMMEND	A.	ric	ons:		(If	d.	if	fe	rent	t :	fro	om	NAS	A))							
	[2	/1R]		[P]		[P]		[P]			[DD,			ETE
* CIL RET	E	NT:	ION 1	RAI	'ION	AL	E:	(:	If a	ąpį	21:	ica	able	•			UAT UAT		[]	
REMARKS: THIS FAII REDUNDANG LIMITS.																						

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 3 ISOLATION VALVE.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11108			NASA DATA BASELINE NEW		
	FRCS 11108 MANIFOLD	3, ox	& FU ISOL	VLV SWITCH	32	
LEAD ANALYST:	D. HARTMAI	N				
ASSESSMENT:						
CRITICAL: FLIGHT		EDUNDA	NCY SCREE	ns	CIL ITEM	
HDW/FUI	IC A		В	С		
NASA [3 /1R IOA [3 /1R] [P]	[P] [P]	[P] [P]	[] *	t
COMPARE [/] []	[]	[]	[]	
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)		
[3 /3] []	[]	[] (A	[] DD/DELEI	ΓE)·
* CIL RETENTION	RATIONALE:	(If a	pplicable	ADEQUATE INADEQUATE		
REMARKS: THIS FAILURE HAS	NO EFFECT	. swi	TCH IS EA			

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11109X							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11109 MANIFOLD 3, OX	& FU ISOL	VLV SWITCH	32				
LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
CRITICAL1 FLIGHT	r	ANCY SCREE		CIL ITEM				
HDW/FUN	NC A	В	С					
NASA [3 /1R IOA [3 /1R] [P]] [P]	[P] [P]	[P] [P]	[] *				
COMPARE [/] []	[]	[]	[]				
RECOMMENDATIONS:	(If different	t from NAS	A)					
[/] []	[]		[] DD/DELETE				
* CIL RETENTION F	RATIONALE: (If a) ADEQUATE INADEQUATE	[]				

ASSESSME ASSESSME NASA FME	NT ID:	1/29/ FRCS- 05-6K	1111			CA: IE [EW []] x]			
SUBSYSTE MDAC ID: ITEM:	M:	FRCS 11110 MANIF		4, 0	X & F	u isc	L V	LV SWITC	:H 33	
LEAD ANA	LYST:	D. HA	RTMA	N						
ASSESSME	NT:									
	CRITICAI FLIGH	T	DANCY	SCRE	ENS		CII ITI			
	HDW/FU	NC	A		E	3	(2		
NASA IOA	[3 /1F [3 /1F]	[P]	[F)	[]	?] ?]	[] *
COMPARE	[/]	[]	[]	[]	C]
RECOMMEN	DATIONS:	(If	dif	fere	nt fr	om NA	SA)			
	[/]	[]	[]	[[ADD/I] DELETE)
* CIL RE	TENTION	RATION	ALE:	(If	appl	icabl	7	DEQUATE]
REMARKS:										

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-111	L11X		NASA DATA: BASELINE NEW	
	FRCS 11111 MANIFOLI	0 4, OX (& FU ISOL	VLV SWITCH	33
LEAD ANALYST:	D. HARTI	IAN			
ASSESSMENT:					
		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	110.
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[] * [X]
COMPARE [N /] []	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[2 /1R] [P]	[P]		[A] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable	adequate	[]
REMARKS: THIS FAILURE CAU REDUNDANCY CAUSE LIMITS.	SES INAB S INABIL	ILITY TO ITY TO E	OPEN THE	E VALVE. LO	SS OF ALL
ISSUE IS TIED TO CLOSED MANIFOLD	THE IOA 4 ISOLAT	HARDWAR	E CRITICA	ALITY FOR TH	E FAILED

ASSESSMENT DATE: 1/29/88															DAT					
ASSESSM	SSESSMENT ID: FRCS-11112X ASA FMEA #: 05-6KF-2030-2]	BASE	CLIN	E	[]	
NASA FM	EA	#:		05-6K	F-	20:	30-	·2							NE	W	Ĺ	X		
SUBSYST	EM:			FRCS																
MDAC ID	:			11112																
ITEM:				MANIF	OL	D 4	4,	ОХ	&	F	J ISC	or .	VL	V SV	ITC	H	33	3		
LEAD AN	ALY	ST	:	D. HA	RT!	(AM	N													
ASSESSM	ENT	:																		
	CR		ICAL:	ITY		R	EDU	NDA	M	CY	SCRI	EEN:	3					[L [EN		
	:		W/FU				В			С					I E.P	1				
NASA	r	3	/1P	1	г	Ð	1		r	ъ	1	r	ъ	ו			r		ו	
IOA	[2	/1R]	[P]		[P	j	ĺ	P]			[X	j	
COMPARE	ſ	N	/]	[]		ſ]	ſ		1			ſ	N	1	
	•			•	-		-		•		-	-		-					-	
RECOMME	NDA'	TI	ons:	(If	d:	if	fer	ent	: 1	fro	om NA	ASA)							
	ſ	2	/1R]	ſ	P	ו		Г	P	1	ſ	P	1			ſ	Α	1	
	•			•	•		•				-			•			-		_	ETE)
* CIL R	ETE:	NT:	ION I	RATION	ALI	Ξ:	(I	f a	p)1i	cabl	le)								
													AI	DEQU	ATE		[]	
REMARKS												11	IAV	EQU	ATE		[]	
THIS FA	-	RE	CAUS	SES IN	AB:	L	[TY	TC) (PF	N TH	ie v	/A1	LVE.	L	oss	S	OF	7	\LL
REDUNDAL																				

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 4 ISOLATION VALVE.

LIMITS.

NASA DATA:

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11113X NASA FMEA #: 05-6KF-2030-2 SUBSYSTEM: FRCS												SA DAT BASELIN NE	ΙE			
SUBSYSTE MDAC ID: ITEM:			11113	DLD	4	, ox	&	FU	ISOI		/L\	SWITC	CH	33		
LEAD ANA	LYSI	r:	D. HAF	RTM	A۱	ī										
ASSESSME	NT:															
	CRITICALITY REDUND. FLIGHT										3			CIL ITEM		
	HI	W/FUI	NC		A			В			С					
NASA IOA	[3	3 /1R 3 /1R]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDAT]	cons:	(If	di	fi	ferent	: f	ro	om NAS	SA))					
	[:	3 /3]	[]	[]	[]	(AI	[[D/DI		ETE)
* CIL RI	ETENT	rion 1	RATION	ALE	:	(If a	ıpp) 11	icable			DEQUATI DEQUATI]	
REMARKS:		E HAS	NO EF	FEC	T.	. sw	CTC	СН	IS E	AS:	IL:	CORRI	EC:	rabli	Ε.	

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME NASA FME	NT	ID:	FRCS-	1111					ASA DATA BASELINE NEW				
SUBSYSTE MDAC ID:			FRCS 11114 MANIF		4, 0	X & F	u isc)L VL	V SWITCH	33			
LEAD ANA	LYS	T:	D. HA	RTMA	N								
ASSESSME	NT:												
											CIL ITEM		
	H	DW/FU	NC	A		В							
NASA IOA	[:	3 /1R 3 /1R]	[P]]	[P [P]	[P]	[[] *]		
COMPARE	[/]	[]	[]	[1	£]		
RECOMMEN	DAT:	ions:	(If	dif	fere	nt fr	om NA	SA)					
	[/	1	[]	[]	[[DD/D] ELETE)		
* CIL RE	TENT	rion 1	RATION	ALE:	(If	appl.	icabl	A	DEQUATE DEQUATE]		
REMARKS:										L			

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-111	115X		NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11115 RJDF1B	OLD LOGI	C SWITCH 7								
LEAD ANALYST:	D. HARTI	MAN									
ASSESSMENT:											
CRITICAL FLIGH	CIL ITEM										
	-	A	В	С							
NASA [3 /1R IOA [2 /1R	HDW/FUNC A B C ASA [3/1R] [P] [P] [P] IOA [2/1R] [P] [P]										
COMPARE [N /] [1	[]	[]	[N]						
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)							
[2 /1R] [P]	[P]	[P] (A	[A] DD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]						
REMARKS: LOSE CAPABILITY											
ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED											

THRUSTER.

ASSESSMEN ASSESSMEN NASA FME	T I		1/29/8 FRCS-1 05-6KF	111			NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM MDAC ID: ITEM:	1 :		FRCS 11116 RJDF1E	3 F1	MAN	IFOLD	LOGI	c s	SWITCH '	7			
LEAD ANAI	LYST	:	D. HAF	RTMA	N								
ASSESSMEN	T:												
ONTITUTE INDUITING											CIL ITEM		
		W/FU	="	A B					С				
NASA IOA	[3	/1R /3]	[F)]	[P]	[[P]		[]	*
COMPARE	[/N]	[N]	[N]	[n]		[]	
RECOMMEN	DATI(ons:	(If	dif	fere	nt fr	om NA	SA)	ı				
	[3	/3]	[]	(]	[]	(Al	[] ELE	TE)
* CIL RET	rent:	ION 1	RATION	ALE:	(If	appl	icabl		ADEQUA' 'ADEQUA'		[]	
REMARKS:											•	•	

THIS FAILURE ALONE HAS NO EFFECT.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11117X NASA FMEA #: 05-6KF-2035-2													ASA DA' BASELII N	NE		_	
SUBSYSTEM: FRCS MDAC ID: 11117 ITEM: RJDF1B F1 MANIFOL LEAD ANALYST: D. HARTMAN										LOGI	c s	EWE	TCH 7				
LEAD ANA	ALYS	ST:	:	D. HA	RTI	(A)	ī										
ASSESSME	ENT:	:															
											CIL ITEM						
	r	וטו	w/ FUI	NC.		A			В			C					
NASA IOA	((3 3	/1R /3]	[P]	[P]	[P]		[]	*
COMPARE	[/N]	[N]	ĺ	N]	[N]		[]	
RECOMMEN	radi	PI(ons:	(If	d:	iff	feren	ıt	fro	om NAS	SA))					
	[3	/3]	[]	[]	[]	(AI	[DD/DI] ELF	TE)
* CIL RI	ETEN	VT:	ION I	RATION	ALI	Ξ:	(If	ap	pl:	icable	•		EQUATI		[]	
REMARKS:	-	RE	ALO	NE HAS	NO) I	EFFEC	T.									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA FMEA #: SUBSYSTEM: MDAC ID: ITEM:	FRCS-1111 05-6KF-20 FRCS 11118 RJDF1B F1	35-2 MANIFOI		•	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICALI FLIGHT		EDUNDANC	Y SCREEN	rs	CIL ITEM
HDW/FUN	IC A		В	С	
NASA [3 /1R IOA [3 /1R] [P] [P] [P] P]	[] *
COMPARE [/] [] [] [1	[]
RECOMMENDATIONS:	(If dif	ferent f	rom NASA	·)	
[3 /3] [] . [) [] (Ai	[] OD/DELETE)
* CIL RETENTION F	RATIONALE:	(If app	_	ADEQUATE NADEQUATE	[]

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

THIS FAILURE HAS NO EFFECT.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11	119X		NASA DATA BASELINE NEW								
MDAC ID:	FRCS 11119 RJDF1B	F1 MANIF	OLD LOGIO	C SWITCH 7								
LEAD ANALYST:	D. HART	MAN										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIT												
	NC	A	В	С	11111							
NASA [3 /1F IOA [2 /1F] [P] P]	[P] [P]	[P] [P]	[x] *							
COMPARE [N /] []	[]	[]	[N]							
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)								
[2 /1F	. [P]	[P]	[P] (A	[A] .DD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If a	applicabl	ADEOUATE	[]							
REMARKS:				INADEQUATE	[]							
LOSE CAPABILITY	OSE CAPABILITY TO EXPEL PROPELLANTS TO MEET CG LIMITS.											
ISSUE IS TIED TO	THE IOA	HARDWAI	RE CRITIC	ALITY FOR TH	E FAILED OFF							

THRUSTER.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1112		NASA DATA: BASELINE NEW		
	FRCS 11120 RJDF1B F1	MANIFOL	D DRIVER	SWITCH 8	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICAL FLIGH		EDUNDANC	Y SCREEN		CIL ITEM
HDW/FU	NC A		В	С	
NASA [3 /1R IOA [2 /1R] [P] [P] [P] [P] P]	[
COMPARE [N /] [] [] [3	[N]
RECOMMENDATIONS:	(If dif	ferent f	rom NASA	۲)	
[2 /1R] [P	J. [P] [[A] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If app		ADEQUATE	[]
REMARKS: LOSS OF ALL REDU TO MEET CG LIMIT		CAUSES	INABILIT	Y TO EXPEL	PROPELLANTS

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11121X NASA FMEA #: 05-6KF-2036-2														DATA LINE NEW	-]			
SUBSYSTE MDAC ID: ITEM:			FRCS 11121 RJDF1B F1 MANIFOLD DRIVER D. HARTMAN										sv	VITC	н 8				
LEAD ANA	LYS	T:		D.	HAI	RTI	(A)	ī											
ASSESSMENT:																			
												CIL							
		A B									2 2 202 2								
NASA IOA	[3 3	/1R /3]	C A B (] [P] [P] [I] [] [P]		[]	*	
COMPARE	[/N]		[N]	[N]	C	N]		[]		
RECOMMEN	'DA'I	ric	ns:		(If	d:	if1	fere	nt i	Ero	om l	NASA))						
	[3	/3]		[]	[3	[]	(A	[\DD/D) EL	e t e)
* CIL RE	CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []																		
REMARKS: NASA FME EFFECT.		CON	TAI)	NS	MUL	ri]	PLI	E FA	ILUI	RES	5.			_		-	E 1	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	ENT	ID:	FRCS-	-11:				NASA DATA: BASELINE [] NEW [X]								
SUBSYSTE MDAC ID:			FRCS 11122 RJDF1		F1	MAN:	IFO:	LD	DR	IVER	sı	WITCH (8			
LEAD ANA	LYS	T:	D. HA	RT	(A)	1										
ASSESSME	ENT:															
			ITY		RI	EDUNI	OANC	CY	SC	REENS	3			CIL	-	
	FLIGHT HDW/FUNC A B													ITEM	1	
NASA IOA	[:	3 /1R 3 /3]	[P]]	P]]	P]		[] *	
COMPARE	[/N]	[N]	[N]	[N]		[]	
RECOMMEN	DAT	IONS:	(If	di	ff	erer	nt f	rc	om 1	NASA)	1					
	[3	3 /3]	[]	[]	[(D/DE] LETE)
* CIL RE	TENT	TION F	RATION	ALE	:	(If	app	li	.cal			EQUATE		[[]	
REMARKS: NASA FME EFFECT.	A CC	ONTAIN	is Mul	TIP	LE	FAI	LUR	ES		THIS	F	'AILURE	A)	LONE	HAS	ИО

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

NASA DATA:

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	FRCS-1	112	3 X			NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:		FRCS 11123 RJDF1B	F1	MANIF	OLD	DRIVER	SWITCH 8		
LEAD ANALYS	T:	D. HAR	TMA	N					
ASSESSMENT:									
	TICAL FLIGH		R	EDUNDA	MCY	SCREENS	3	CIL ITEM	
Н									
NASA [IOA [3 /1R 3 /1R]	[F	·]	[P] [P] P]		*
COMPARE [/	1	[]	[] [1		1
RECOMMENDAT	TIONS:	(If	dif	feren	t fr	om NASA)		
I	3 /3	3	[]	[] [] (A	[DD/DE] LETE)
* CIL RETEN	MOITN	RATION	ALE:	: (If	appl	icable) I	ADEQUATE NADEQUATE	[]
REMARKS: NASA FMEA (EFFECT.	CONTAI	NS MUL	ripi	LE FAI	LURE	s. THI	S FAILURE	ALONE	HAS NO
AT MEETING	WITH	SUBSYS	TEM	MANAG	ER O	N 1/20/	88, NSTS 2	2206	Was F was

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE

ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-1112	24X 036-1	NASA D BASEL	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11124 RJDF1B F1	. MANIFOLD	DRIVER SWITCH	8
LEAD ANALYST:	D. HARTMA	Ŋ		
ASSESSMENT:				
CRITICALI FLIGHT	·	EDUNDANCY	SCREENS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [3 /1R IOA [2 /1R] [P	[P] [P]] [P]	[] * [x]
COMPARE [N /] [] [] []	[N]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)	
[2 /1R] [P] [P] [P]	[A] (ADD/DELETE)
* CIL RETENTION R	ATIONALE:	(If appli	.cable) ADEQUAT INADEQUAT	
REMARKS: LOSS OF ALL REDUN TO MEET CG LIMITS	DANT JETS	CAUSES IN		

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF

REPORT DATE 2/26/88

THRUSTERS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11: 05-6KF-2	L25X		NASA DATA: BASELINE NEW	
MDAC ID:	FRCS 11125 RJDF1A	F2 MANIF	OLD LOGIC	SWITCH 7	
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		В	С	112.1	
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[x] *
COMPARE [N /] [1	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[2 /1R] [P]	[P]		[A] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	adequate inadequate	[]
REMARKS: LOSE CAPABILITY	TO EXPEI	PROPELI	LANTS TO 1	MEET CG LIMI	TS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTER.

ASSESSMI ASSESSMI NASA FMI	ENT]	D:	1/29/ FRCS- 05-6F	-111					ASA DATA BASELINI NEV		x]
SUBSYSTI MDAC ID: ITEM:			FRCS 11126 RJDF1		2 MA	NIFOLD	LO	GIC SW	TCH 7		
LEAD ANA	ALYSI	·:	D. HA	RTM	AN						
ASSESSME	ENT:										
		ICAL	ITY T]	REDUI	NDANCY	SCI	REENS		CI IT	_
	HC	W/FU	NC	1	В		С				
NASA IOA	[3	/1R /3]	[]	?]]	[P]	[P]	[] *
COMPARE	[/N]	[]	1]	[N]	[N	1	[]
RECOMMEN	DATI	ons:	(If	dif	fere	ent fro	om N	IASA)			
	[3	/3]	[]	[]	[[.DD/1] DELETE)
* CIL RE REMARKS: THIS FAI							icab	AD	EQUATE EQUATE	[]
		ALO:	יה וואט	140	EFFE	CI.					

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA DATA:

ASSESSMEN											NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM MDAC ID:	4:			111	127	F	72	MANI	FOI	ZD.	LOG	ic s	WI	тсн	7			
LEAD ANA	LEAD ANALYST: D. HARTMAN																	
ASSESSME	NT:	;																
•	CR1		[CAL]				RE	DUND	AN	CY	SCR	EENS	5			CIL		
FLIGHT HDW/FUNC A													С					
NASA IOA	[3	/1R /3]]	P]	[P]]	P]		[]	*
COMPARE	[/N]		[N]	[N]	[N]		[]	
RECOMMEN	DA'	TIC	ons:		(If	đ	if:	feren	ıt	fr	om N	IASA)					
	[3	/3]		[]	[]	[]	(A	[.DD/I		ETE)
* CIL RE	TE	NT	ION	RAI	CION	ΑL	E:	(If	ap	pl	icak			DEQU DEQU]	
REMARKS: THIS FAI	: [LU	RE	ALC	NE	HAS	N	0	EFFE(CT.									

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSME ASSESSME NASA FME	NT I	[D:	1/29/8 FRCS-3 05-6KI	111:			NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEMDAC ID:	M:		FRCS 11128 RJDF12	A F	2 MAN	IFOLD	LOGI	C SW	TITCH 7				
LEAD ANA	LYSI	r:	D. HAI	RTM	AN								
ASSESSME	NT:												
•	F	TICALI TLIGHT	C	I	REDUN	DANCY	SCRE	ENS		CI	L EM		
	HE	W/FUN	iC	1	A	В		C	!				
NASA IOA	[3	3 /1R 3 /1R]	[]	?] ?]	[P [P]	[P]]] *		
COMPARE	[/]	[]	[1	[]	[]		
RECOMMEN	DATI	ons:	(If	di	ffere	nt fr	om NA	SA)					
	[3	3 /3	1	[]	[]	[[ADD/	DELET	E)	
* CIL RE	rent	CION F	RATION	ALE:	(If	appl	icabl	A	DEQUATE DEQUATE	-]		
REMARKS:										•	•		

REPORT DATE 2/26/88 C-1389

THIS FAILURE ALONE HAS NO EFFECT.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-11			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11129 RJDF1A	F2 MANIF	OLD LOGI	C SWITCH 7	
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	1121
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[] * [x]
COMPARE [N /] [1	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
[2 /1R] [P]	[P]	[P]	[A] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE	
REMARKS: LOSE CAPABILITY	TO EXPEL	ANTS TO			
ISSUE IS TIED TO	THE IOA	HARDWAF	RE CRITIC	ALITY FOR TH	E FAILED OFF

THRUSTER.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-111 05-6KF-2			NASA DA BASELI N	
	FRCS 11130 RJDF1A H	F2 MANIE	FOLD DRI	EVER SWITCH	8
LEAD ANALYST:	D. HARTM	MAN			
ASSESSMENT:					
FLIGH		REDUNDA	NCY SCF	REENS	CIL ITEM
HDW/FU	NC	A	В	С	
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[x] *
COMPARE [N /] []	[]	[]	[N]
RECOMMENDATIONS:	(If di	fferent	from N	'ASA)	
[2 /1R] [P]	[P]		[A] (ADD/DELETE)
* CIL RETENTION I	RATIONALE	: (If a	pplicab	le) ADEQUATE INADEQUATE	
LOSE CAPABILITY	O EXPEL	PROPELL	ANTS TO	MEET CG LIN	fits.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FRCS-111			NASA DATA: BASELINE NEW	[x]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11131 RJDF1A F	2 MANIFOL	D DRIVER	SWITCH 8		
LEAD ANALYST:	D. HARTM	AN				
ASSESSMENT:						
	ITY	REDUNDANC	CY SCREENS	5	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [3 /1R IOA [3 /3] [P] [P] [P]	[]	*
COMPARE [/N] [и] [N] [N]	[]	
RECOMMENDATIONS:	(If di	fferent	from NASA)		
[3 /3] [] [] .[] (A)	[] DD/DEL	
* CIL RETENTION	RATIONALE	: (If ap)		ADEQUATE NADEQUATE	[]	
REMARKS: NASA FMEA CONTAI EFFECT.	INS MULTIE	LE FAILU	RES. THI	S FAILURE	ALONE	HAS NO
			017 3 /00 /	oo Neme 1	2206 W	INC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	1/29 FRCS 05-6	-1111	32X 036-2	2			NASA BASE	LINE	-]	
SUBSYSTI MDAC ID: ITEM:			FRCS 1113 RJDF	-	MAN	VIFOLD	DF	RIVER	SWITC	8 H			
LEAD ANA	ALYS'	T:	D. H	ARTMA	N								
ASSESSME	ENT:												
	1	TICAL FLIGH	T	F	EDUN	DANCY	sc	REENS			CIL ITEM	ſ	
	H	DW/FU	NC	A	L	В			С			•	
NASA IOA		3 /1R 3 /3]	[F]	[P]	[P]		[] *	
COMPARE	[/N]	[N]	[11]	[]	N]		Ε]	
RECOMMEN	DATI	cons:	(If	dif	fere	nt fro	om :	NASA)					
	[3	3 /3]	[]	[3	[3	(AI	[DD/DE)
* CIL RE	TENT	ION	RATION	ALE:	(If	appli	.cal	1	ADEQUA ADEQUA		[]	
NASA FME. EFFECT.	A CO	NTAI	NS MUL	TIPL	E FA:	ILURES		THIS	FAILU	RE A	LONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	T	ID	TE:	1/29 FRCS 05-0	5-1	11									DATA: LINE NEW	-]		
SUBSYSTEM MDAC ID:	M:			FRC: 111 RJD:	33	F	2	MANII	FOL	ď	DR]	(VER	SW	ITCI	н 8				
LEAD ANA	LYS	T:		D.	HAR	TM	AN	·											
ASSESSME	NT:	;																	
	CR1		CAL				RE	DUND	ANC	Y	SCI	REEN	S			CIL			
	ŀ		JIGHT V/FUI				A			В			С						
NASA IOA			/1R /1R			[P P]	[P P]	[[P P]		[]	*	
COMPARE	[/]		[]	[]	[]		ĺ]		
RECOMMEN	IDA'	rI(ons:	(Ιf	đ	Ĺfí	feren	t:	fr	om	NASA	.)						
	[3	/3]		[]	ſ]	[]	(A	[DD/I		ETE))
* CIL RE	ETE	NT	ION	RAT	[ON]	AL	E:	(If	ap	pl	ica		A		JATE JATE	[]		
REMARKS: NASA FMI EFFECT.	EA	co	NTAI	ns 1	MUL	TI:	PL	E FAI	LU	RE	s.	THI	S	FAII	LURE	ALOI	ΙE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE RAISED ABOVE WAS DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THE ISSUE REMAINS OPEN.

NASA FMEA #: 05-6KF-2036-1 NEW										[]		
SUBSYSTEM: MDAC ID: ITEM:			FRCS 11134 RJDF1A	A F2	MANI	FOLI	D DR	IVER	SWITCH	8 1			
LEAD ANALYST: D. HARTMAN													
ASSESSMENT:													
	FL	CALI IGHT	•	F	REDUND	ANC	sci	REENS	;		CIL	M	
	HDW,	/FUN	C	A	١.	F	3		С				
NASA [IOA [3 ,	/1R /1R]	[F))	[]	?]]	P] P]		[x]	*
COMPARE [N,	/]	[]	[]	[]		[N]	
RECOMMENDA	TIO	NS:	(If	dif	feren	t fr	om 1	NASA)					
[2 ,	/1R]	[F	']	[F)	[P]	(AE	[A DD/DI		TE)
* CIL RETE	NTI	ON R	ATIONA	LE:	(If	appl	icak		ADEQUA ADEQUA]]	
REMARKS: LOSE CAPABILITY TO EXPEL PROPELLANTS TO MEET CG LIMITS.													

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTERS.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11135X NASA FMEA #: 05-6KF-2035-1												SA DAT ASELII NI		[]			
SUBSYSTI MDAC ID: ITEM:				FRC: 111: RJD:	35	F3	MA	NIFO	OLD	I	OGIC	: s	WI	тсн 5					
LEAD AND	ALYS	ST	:	D. 3	HART	MAN	1												
ASSESSM	ENT	:																	
	CR		ICAL:			RI	EDU	NDAI	NCY	S	CREE	ENS	5				IL PEN	1	
	1		LIGH W/FU			A			В	,			С					-	
NASA IOA	[3 2	/1R /1R]]	P P]		[F	,]		[P P]		[X]	*
COMPARE	[N	/]	[]		[]	l	[]		[N]	
RECOMME	NDA	TI	ons:	(If d	if	fer	ent	fr	or	n NAS	SA))						
	[2	/1R)	[P]		[]	•]	[P]	(A		A /D		ETE)
* CIL R	ETE	NT	ION	RATI	ONAL	E:	(I	f a	pp]	Lic	cabl			DEQUAT DEQUAT		[]	
REMARKS LOSE CA	: PAB	IL	YTI	TO F	EXPEI	, P	ROI	PELL	ANT	rs	TO 1	ME:	ET	CG LI	MI	TS	•		

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTER.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-11 05-6KF-	136				N	IASA DAT BASELIN NE		x]	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11136 RJDF2A	F3	MANIF	OLD	LOGIC	Sī	WITCH 5			
LEAD ANALYST:	D. HART	MAN	Ī							
ASSESSMENT:										
CRITICAL		RE	DUNDA	NCY	SCREE	NS		_	IL TEM	
FLIGH HDW/FU		A		В		1	С			
NASA [3 /1R IOA [3 /3]	[P]	[P]	[P]]	[[:] *]
COMPARE [/N	1	(N]	[N]	[и]	(]
RECOMMENDATIONS:	(If	dif:	ferent	t fr	om NAS	SA)				
[3 /3]	[]	[]	[])/DE] LETE)
* CIL RETENTION	RATIONA	LE:	(If	appl	icable		ADEQUAT IADEQUAT		:]
REMARKS: THIS FAILURE AL	ONE HAS	МО	EFFEC	т.						

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSM ASSESSM NASA FM	ENT	I	D:	F	/29/ RCS- 5-6K	11	13	7X 35-	-2							A DAT SELIN NI]	
SUBSYST MDAC ID ITEM:				1	RCS 1137 JDF2	A	F3	MA	NIF	OI	ĽD	LOC	GIC	sw	ITC	CH 5				
LEAD AN	ALYS	ST	:	D	. HA	RT.	MA	N												
ASSESSM	ENT:	:																		
		F	ICAI LIGH	łT	_			EDU:	NDA			SCF	REEN					IL PEM		
			√FU				A				В			С						
NASA IOA	[3	/1F /3	₹]		[P]] [P]	[[P]		[[]	*	
COMPARE	[/N]		[N]		[N]	[N]		[)		
RECOMMEN	TADI	'IC	ns:		(If	d:	if1	ere	ent	f	rc	m N	IASA))						
	[3	/3]		[]	İ	[]	[]	(.	[ADD/	DEL	ETE)
* CIL RE											li	cab	•			UATE UATE]		
THIS FAI	. LOK	نا.	MIO	14 C	паб	NC	Ľ	rrt	sci.	•										

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: FRCS-11138X NASA FMEA #: 05-6KF-2035-2									NASA DATA: BASELINE [] NEW [X]									
SUBSYSTE MDAC ID: ITEM:	M:			:	FRCS 11138 RJDF2	A I	F3	MAN	IIFO	LD	LOC	SIC S	SWI	тсн	5			
LEAD ANA	LYS	ST	:	1). HA	RT!	MAI	N.										
ASSESSME	NT:	:																
	CR		ICA LIG		ľΥ		RI	EDUN	IDAN	CY	SCF	REENS	3			CI	L EM	
	I	ID	W/F	UN	2		A			В			С					
NASA IOA	[3 3	/1 /1	R R]	[P P]]	P P]	[P P]		[]	*
COMPARE	[/	•	1	[]	[]	[]		[]	
RECOMMEN	DAT	ri	оиѕ	:	(If	đ.	if	fere	nt	fr	om N	IASA)	ı					
	[3	/3			[]	(]	C]	(A	[DD/	DEI	ETE
* CIL RE	TEI	VT:	ION	R	ATION	AL	E:	(If	ap	pl:	icak	•		EQUA EQUA		[]	
REMARKS: THIS FAI	LUI	RE	AL	ONI	E HAS	N	o 1	EFFE	CT.									

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 FRCS-111 05-6KF-2			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	FRCS 11139 RJDF2A F	F3 MANII	OLD DRIVE	R SWITCH 5	
LEAD ANALYST:	D. HARTM	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCREI	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	112.
NASA [3 /1R IOA [2 /1R] [P] P]	[P] [P]	[P] [P]	[] * [X]
COMPARE [N /] []	[]	[]	[N]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)	
[2 /1F	[P]	[P]	[P]	[A] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: LOSE CAPABILITY	TO EXPEL	PROPEL	LANTS TO	MEET CG LIMI	TS.

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED OFF THRUSTER.

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